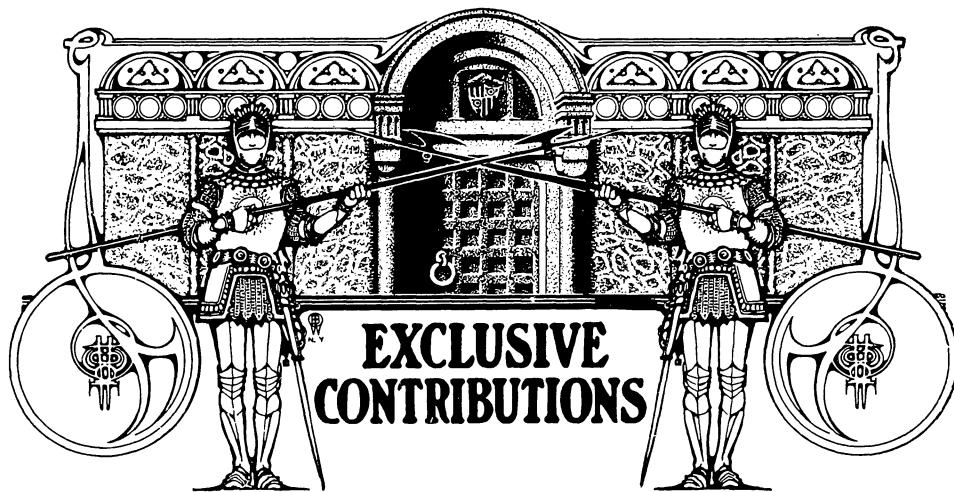


DR. WILBUR F. LITCH



Congenital Absence of Molars.

By R. OTTOLENGUI, M.D.S., D.D.S., LL.D.

In the ITEMS OF INTEREST for December, 1911 (p. 887), Dr. Howard R. Raper, writing of the use of radiography in making examinations for teeth missing from the dental arches, made the following statement: "When the missing tooth is a central, lateral, bicuspid, or lower cuspid, I am in doubt what to expect. My experience teaches me that when these teeth are missing they are just as likely to be entirely absent from the jaw as present in it, and simply unerupted. So far, I have never seen either long-delayed eruption or congenital absence of the first or second molars."

The radiograph is so constantly disclosing new anomalies that opinions must be held tentatively and constantly revised. Some years ago I believed that missing lateral incisors are never found impacted, but that missing upper cuspids could always be found with the X-rays. In the quotation Dr. Raper includes lateral incisors among the teeth about which he would have a doubt. If Dr. Raper or any other radiographer has a radiograph showing an impacted upper lateral incisor I should be very glad to see it. It is still my opinion that this tooth is congenitally absent more often than any other tooth in the denture. In regard to upper cuspids I have been compelled to alter my opinion. In a case from my practice, radiographs of which were published by Dr. Raper in ITEMS OF

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INTEREST, September, 1912 (p. 648), one upper cuspid is clearly shown to be absent, and I have seen similar radiographs in one or two other instances. It is, nevertheless, quite a rare experience to use the X-rays in a search for a missing upper cuspid and not find it. It is noteworthy that in this same case, where one cuspid was absent, both upper lateral incisors were also congenitally absent.



Fig. 1.

Odontoma in patient eight years old. Radiograph by Dr. M. I. Schamberg.

Missing First Molar.

Very shortly after Dr. Raper had published the quoted statement, that up to that time he had not seen a case wherein first or second molars were congenitally absent, a little girl patient of mine came in for her periodical examination, and I noted that since her previous visit she had erupted three first permanent molars, but the fourth had not appeared. I immediately began to wonder whether or not I was about to discover an authentic case of congenital absence of a first molar. I say authentic, because in records of this kind it is not always that one may be sure that the history is authentic. But in this particular case there can be no doubt. The child was the sister of another girl in my care and had been under my observation since she was four years of age. I have casts of her mouth at the age of five, which show the primary denture complete. I may add also that there never had nor has been any caries,

and consequently there was no possibility that a molar had been extracted, a suspicion always warranted when we find a first molar absent from the mouth of an adult. An ordinary small mouth radiograph was made, and while it did not disclose the shadow of a molar, neither did it satisfactorily show what really existed. I therefore determined to have a large radiograph made, so that we might have a picture of the entire bone.



Fig. 2.

Same patient, opposite side of jaw. Radiograph by Dr. M. I. Schamberg.

The patient was sent to Dr. M. I. Schamberg, who made radiographs of both sides of the mandible, that we might compare them. The radiographs are reproduced in Figs. 1 and 2. My surprise may be imagined when I found that in the region which should have been occupied by the second bicuspid and the first molar, there was a well-defined composite odontoma. And perhaps even more astonishing is the position of the molar lying distally of the tumor. Whether this tooth, which is seen lying horizontally in the bone, is the first molar or the second molar, is a question that has been raised by an orthodontist of national reputation, a man of keen judgment and well informed as to tooth forms. While I am willing to admit that this looks more like a first than a second molar, especially when we compare with the normal side (Fig. 2), still



I very much doubt that it is the first molar. The odontoma is more apt to be a composite of the bicuspid and first molar. But in any event, interesting as this case is, it cannot be entered in the literature as a record of congenital absence of a first permanent molar, because that tooth is either in the bone or else is included in the odontoma, whereas by "congenital absence" I understand to be meant complete non-existence.

It may not be amiss here to quote from the most recent authorities in regard to odontomata. It is evident that but little is positively known except as to clinical expressions and treatment. The etiology is still within the realm of speculation. In Dr. John Sayre Marshall's "*Injuries and Surgical Diseases of the Mouth and Jaw*" (Third edition, pp. 674-6) may be found the following:

"This form of odontomes is the result, according to Sutton, of a 'sporadic calcification of the thickened and enlarged tooth-capsule,' while in the formation of cementomes the process of calcification takes place *en masse*. By this sporadic calcification of the capsule there is developed with the tumor a number of small teeth or denticles, consisting of cementum or dentin, or even ill-shaped teeth composed of the three dental elements—cementum, dentin and enamel." (Sutton.)

"The writer is inclined to the opinion that the explanation of the presence of nests of teeth or denticles in such tumors is that the epithelial elements confined within the tooth-capsule break up, as is the case with the epithelial cord, into minute masses, which under favorable conditions assumes shapes similar to the normal teeth, but smaller in size, or ill-shaped teeth, or masses of tissue of heterogeneous structure which have no definite outline.

"These tumors have been observed in the human subject, and in goats, horses, and other mammalia. In man they usually develop in early life during the period of second dentition. Among the records of cases of this character, the youngest was a boy ten years old and the eldest a woman of twenty-seven years.

"The number of denticles found in tumors of this character varies greatly. From three or four to as many hundreds have been removed from the jaws of a single patient.

"Among the recorded cases of special interest which will be briefly mentioned are the following:

"Tellander reported a case of tumor of the right side of the superior maxilla in a woman twenty-seven years of age, which had been growing since she was twelve years old. The character of this growth was a hard, painless swelling. It occupied the space in which should have been located the first molar, the bicuspids and the cuspid of the permanent set. These

teeth had not erupted. Upon opening the tumor it was found to contain several minute teeth; nine individual teeth with conical crowns and conical roots, each complete in itself, the crown being furnished with enamel; and six masses of dental tissues having the appearance of being formed by a union of several single teeth, and all presenting the characteristics of supernumerary teeth. Another tooth made its appearance about a year later in the location from which the tumor was removed.

Another case, recorded by Windle and Humphreys, which occurred in the practice of Sims, of Birmingham, England, was found in the mouth of a boy ten years of age. The lateral incisor and cuspid of the permanent teeth had not made their appearance, and this space was occupied by a tumor with hard, unyielding walls, from which were taken forty small, irregularly-formed denticles."

Dr. Stewart Leroy McCurdy, in his "*Oral Surgery*" (pp. 250-2), recently published, says:

"This variety of tooth tumor, according to Sutton, appears in three forms. Unless the successive stages are studied microscopically, the follicular and fibrous forms and the composite variety present very much the same characteristics. These tumors are typical of the so-called dentigerous cysts. They develop from the permanent teeth, usually the molars. The wall is formed by the expanded tooth follicle, which is filled with a viscid fluid, and in which is found the imperfectly developed, loose and displaced tooth. The tumors may grow to enormous size, causing great deformity. This variety is known as fibrous. The sac wall usually calcifies. The cementum of the tooth—*i. e.*, *structure* which gives origin to the cementum of the tooth—has to do with the calcareous change above mentioned; hence the name sometimes used, cementoma. Two or more tooth follicles may join in the process, when it is known as compound follicular odontoma. Dozens of tooth-like bodies have been removed from such a cavity. Suppuration rarely, if ever, occurs.

"Thomas L. Gilmer has very ably presented this subject and furnished pathological specimens from his own practice. He may be quoted with profit as follows: 'Odontomes are rare in man. They are more frequently found in the jaws of the horse and other animals, but when both those found in man and those found in animals are considered, the number is relatively small. Composite odontomes are most frequently found in the mandible, but are not to be excluded from the maxilla, since two of those in this report were from the upper jaw. They seem to belong to the molar region of the jaws. The composite odontome, as indicated, is made up of enamel, dentine and cementum. These tissues may be thrown together in a more homogeneous mass, plus well-formed diminu-



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tive teeth, all united by cementum, easily made out microscopically, or the formation may appear to the eye only as a conglomerate mass with no well-marked tooth forms. This simple, homogeneous mass, as observed by the unaided eye, is transformed by magnification into a complex tumor of regularly formed teeth with their roots and canals all cemented into a solid and compact body.



Fig. 3.

Patient aged 13. Right side. Two upper and one lower molar absent. Radiograph by Dr. Geo. M. McKee.

"The composite odontome differs from the ordinary dentigerous cyst containing diminutive teeth or dentary bodies in that the dentigerous cyst contains no cement substance other than that which covers the root of the individual tooth, when perfectly formed teeth are found, with each little tooth or denticle separate and distinct from the other; besides, there is a well-defined cyst wall and cyst fluid. In the composite odontomes there is no cyst wall or cyst fluid, so far as I have been able to discover. The origin of composite odontomes has not been fully made out, but it is reasonable to attribute them to the same source as that of multilocular cysts or adamanomas, that is, to unatrophied remains of the epithelial cord; or possibly to extra buds given off from

the epithelial lamina, which have become distorted in development. Black attributes supernumerary teeth to additional buds, which buds he has demonstrated."

The case herewith reported is younger than the youngest mentioned by Marshall, having been discovered prior to the age of eight. It is probable, however, that the recorded cases could have been discovered at earlier ages had radiographic examination been made. Thus far my



Fig. 4.

Same patient. Left side. Same molars absent. Radiograph by Dr. Geo. M. McKee.

little patient has not suffered in any way there being a total absence of "symptoms." But for my own curiosity the parents would even now not even suspect the presence of any pathologic condition. Yet, in view of the position of the impacted tooth, and the opinions on impaction published by Upson and others, and when we note the position of the tumor in relation to the mandibular canal, we certainly would have a right to expect "symptoms"; yet there are none. The child is healthy, hearty and happy.

**Missing
Second Molars.**

The second case which I am permitted to report is from the practice of Dr. Thaddeus P. Hyat, and is in the hands also of Dr. George B. Palmer for orthodontic treatment. The patient is a boy of fourteen, and we are assured that no permanent teeth have been extracted, yet no less than thirteen permanent teeth are missing. In the upper jaw the absent teeth are: both lateral incisors, three bicuspids, both second molars and both third molars, a total of nine teeth (note that both upper laterals are absent, while both upper cuspids are present). In the lower jaw the following teeth are absent: the first bicuspid and the third molar on the right side and the second bicuspid and the third molar on the left side.

Figs. 3 and 4 are radiographs of the two sides of the head. In the upper the first molars are easily distinguished, but there are no evidences of the second and third molars. In the mandible the third molars are absent, but the other four molars are present, though in one case the crown has been lost by caries. Considering the boy's age, this seems to be an authentic record of congenital absence of two second upper molars, and of all four third molars, as the extraction of any of these teeth could not have been forgotten.

**Missing First,
Second and
Third Molars.**

Dr. Hyat has kindly asked another patient of his to call at my office that I might examine a very similar case. In this instance the patient is a woman about thirty-five years of age. She is a highly cultured person engaged in the editorial department of one of our leading magazines. She is quite positive that the only tooth she ever had extracted was one lower first molar. If this be true she has fourteen teeth congenitally absent as follows: In the upper jaw the missing teeth are the two lateral incisors, the first, second and third molars on the left side, and the second and third molars on the right side. In the lower jaw the missing teeth are the second bicuspid and all three molars on the right side, and both bicuspids and the third molar on the left side. Again we have the upper laterals missing, and the upper cuspids present.

In this mouth we have the strange anomaly of three molars missing from the upper jaw on the right side, and three molars missing from the lower jaw on the left side. Enumerated in full the absent molars were all four of the third molars, three of the second molars and two of the first molars.

Pulp Mummification.

MY DEAR DOCTOR:

I am very much interested in Dr. Hoyl's paper and your editorial in the December ITEMS relative to "Pulp Mummification." I also read the article by Dr. Sodenborg in the *Cosmos* of October or November, 1895, and for some years afterward made an extended use of the formula there presented with most gratifying results.

However, I was never fully satisfied that I was doing the "correct thing," as it seemed to be such a departure from the established order,

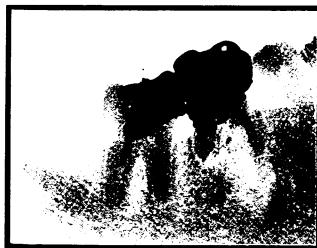


Fig. 1.

and in that measure unscientific, but only a few weeks ago did I have practical proof of the value of pulp mummification versus root canal filling, which is shown in a radiograph of two teeth in my own mouth (Fig. 1), which, by the way, was taken rather accidentally, a friend of mine trying some new dental films on me.

The left lower first molar was devitalized with arsenic and canals filled with chloro-percha and gutta-percha points in April, 1890, or twenty-two years ago. The second molar was devitalized with arsenic and the larger portion only of pulp removed and the mummifying paste applied in October, 1898, or fourteen years ago.

Neither tooth has ever given me a moment's discomfort, but considering the resorbed condition of the roots of the first molar, I believe I may soon expect to lose it.

If you think this radiograph and letter of interest you may certainly use it for publication.

Very truly yours,

W. H. HAYDEN.

Youngstown, Ohio, December 16, 1912.

The above letter from Dr. Hayden, and the accompanying radiograph (Fig. 1), are certainly interesting, but the radiograph does not

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convey to my mind the evidence which Dr. Hayden attributes to it. First let us consider the facts in relation to the first molar. As is well known, the original film is much better for diagnostic purposes than any print therefrom, and something is again lost in reproduction of the print by half-tone I have, however, closely studied the original film which Dr. Hayden kindly sent with his letter, and on a second print I have marked as accurately as possible what I conceive to have been the original outlines of the roots, as seen in Fig. 2. Studied in this manner

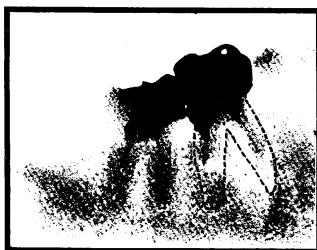


Fig. 2.

it is interesting to note that the resorption of the distal root of the first molar must have begun first, for we observe that the space originally occupied by the apical half of the root has been replaced by new bone quite as dense as the surrounding area, the only pathological expression being found at the immediate end of the resorbed root where the light shading forms a V-shaped spot. The mesial root is not so fully resorbed, and we find a pathological aureole about its apex. Now note that in neither root does the gutta-percha root filling extend beyond the resorbed portion. Had these roots been properly filled these gutta-percha points would still show extending to the apices as outlined by the ink marks. This is not conjecture; I have seen such pictures more than once, where teeth had been implanted and the roots subsequently becoming resorbed, the radiographs have shown the root filling extending beyond the resorbed root end.

Dr. F. T. Van Woert once showed me a radiograph of a case where an implanted tooth had been exfoliated by resorption of its root, and yet the gutta-percha root canal filling was still within the bone. Hence, the present condition of Dr. Hayden's first molar is no argument against root canal filling; on the contrary, it is an argument against leaving root canals unfilled.

In similar manner the radiograph of the second molar does not prove that mummification is good practice. First these roots are actually filled quite as far up as was the other tooth. Second, beyond what root

filling is present we do not observe any trace of unfilled canals except for a very minute distance in the distal root (see Fig. 2, where the unfilled portion has been accentuated by retouching, the retouching having been done with absolute accuracy). The point is that these canals must have been very attenuated, and while they should have been cleansed, and while the dead pulps in even the finest canals may produce abscesses, nevertheless, the less dead material there is, the less likelihood of infection. Again, a dead pulp does not always cause an infection; but it may do so at any time, and this is the reason why it should be removed.

The fact that this tooth has "given no trouble" does not prove that the mummification treatment has permanently safeguarded it from disease, any more than the fact that the first molar has "given no trouble," proves that its roots are sound, which indeed they are not.

Finally, the radiograph shows slight infected areas between the roots of the second molar, and also to the distal end of the distal root. Whether this infection is due to pyorrhea or whether it has arisen from the "mummified" pulps I do not know.

It would be interesting to see radiographs of fifty or a hundred teeth in which mummification had been practiced.

R. OTTOLENGUI.

The Dental Nurse.

By MISS DYMPLE B. JOHNSON, Fort Smith, Ark.*

If women wish to clean teeth, treat teeth, or do any other operations, let them play fair and take the same training that is demanded of men. *There is no compromise possible on the legal question.* No woman should be allowed to stand and work at an operating chair, continuously, until she has spent three or four years in a dental college to find out whether or not she wishes to pay the price every woman *must pay* who does this work. *God can't love the female dentist* very much, for He lets so few of them MAKE GOOD, and still be healthy women.

The present "young lady in the office" is a home-made tool, varying in value, to her preceptor alone, as to usefulness, according to the resourcefulness of the dentist who has taught her. The system is a splendid one for the dentist (in some ways)—but how about the woman? Her revolt against the present established order of things is oftentimes the expression of her realization that she is being cheated of the right

* Miss Johnson writes that she has had fifteen years' experience as a dental nurse.—ED.



to develop in herself a real power as an assistant. She should be more perfect and more useful than the up-to-date switchboard and its attachments. To get this perfection, the standard and the standing of the woman assistant will have to be raised.

The only way this can be done is to give her a **Course of Study for Dental Nurse.** This school should be entirely free from dental colleges, dental clinics and hospitals. The requirements for entrance should be—age twenty, perfect health, high school course or better, and an independent income, sufficient for living expenses during the two years' course of study.

The course of study must include the following:

1. Prosthetic Dentistry.
2. Anatomy.
3. Diseases of the Mouth.
4. Bacteriology.
5. Asepsis.
6. Anesthetics.
7. Psychology.
8. Dental Kindergarten Work.

If the time and energy spent by assistants in doing embroidery were used in the laboratory, the results would be surprising. Any woman who can embroider can use tools. She can use them so skilfully that she can do every bit of the plate, crown and bridge, inlay, regulating appliance work, *except that actually done in the mouth.* The dentists who have assistants like these are the ones who make plates that fit, bridges that are a part of the whole set, and porcelain crowns that are really teeth. A few dentists, without knowing it, have discovered and use, in consultation only, with their assistant, the knowledge of beauty and critical judgment of faces, that women have been developing ever since Eve first saw her reflection in the pool of water.

2. A general course in Anatomy without dissecting. The present course in classification and comparison of types is so incomplete that it is almost useless.

3. A thorough knowledge of the diseases of the mouth is essential to enable the assistant to do bacteriological work.

4. No one should treat a diseased mouth until it has been determined by bacteriological experiments what the exact conditions are. Women excel in detail work when they have been especially trained for it.

5. With these subjects mastered, a woman would then be in a position to prove what asepsis really means. In the years to come they may prove what a mockery the present methods are.

6. Any dentist who will allow any assistant to give any anesthetic, unless she knows all that has been proven about it, is a criminal in intent if not in fact. No anesthetic is harmless; no one can learn to use it without experimenting, and the office of a dentist is *not* the place for such experiments. A dentist cannot watch the giver of an anesthetic and operate intelligently at the same time.

7. The necessity for anesthetics in operations in the mouth will go the way of all the other crude makeshifts so frequently used by the dentist, when the assistant fulfills her real mission. There is no operation on the teeth so painful but that anyone can endure it. Hundreds of patients have admitted that it is not the actual pain, but the *fear of pain*, which causes them so much discomfort. Everyone is susceptible to suggestion, when it is used scientifically. Every healthy woman has the intuitive power of the nerve specialist. Add to this natural endowment a full scientific knowledge of psychology, and the practical application of suggestion to the fear of pain—and the result is wonderfully anesthetic. This is *not* a beautiful theory, it has been tried out thoroughly, during an experience covering a period of fifteen years. The actual work of dentistry does not wear men out. It is the constant struggle with the mental conditions (often unknown to the average practitioner) of the patient. The amount of time and energy spent in this way is appalling.

Think it over and prove to yourself by your own experiences in one day how much time you would have for prophylactic operations if you did not have to struggle with "nervous feelings."

8. Anyone who has learned to read and write possesses enough reasoning power to understand the necessity of cleanliness in the mouth if the subject is presented in a simple, direct, and forceful manner. But it is going to take expert kindergartners working with the best men in the profession to work out a theory that will get over and get results with the thousand million who can neither read nor write.

Such wonderful things have been done during the short time of the active work of the Mouth Hygiene campaign that it is easy to believe that this problem, too, will soon be solved.



Discussion of Dr. Cryer's Paper.*

By GEO. V. I. BROWN, A.B., D.D.S., M.D., C.M.
Oral Surgeon St. Mary's Hospital and Children's Free Hospital, Milwaukee, Wis.

By way of introduction to my discussion of Dr. Cryer's paper, entitled "The Influence Exerted by the Dental Arches in Regard to Respiration and General Health," it gives me pleasure to take this opportunity to express my personal indebtedness to Dr. Cryer for the valuable assistance that I have received in the course of the development of my surgical work from his wonderfully painstaking and instructive anatomical studies. In common with practically all others who treat surgically the region of the buccal cavity and the maxillæ, or the nose and the nasal accessory sinuses, the ear and associate parts, I owe much to Dr. Cryer for being among the first to break ground in the direction of supplying absolutely exact demonstrations of actual anatomical conditions as they exist, normally and abnormally. I am fully in accord with his statement that "great improvement can be brought about in respiration, both nasal and oral, by widening the dental arches," and certainly there can be no question as to the value of such a result when it is remembered that, as he also states, "this will produce change for the better in the nasal cavity and its accessory sinuses with the drainage and ventilation of these spaces, all of which will tend to improve the health of the patient." We may further agree with his

*Dr. Brown was absent from the meeting and his contribution was received by the Board of Censors too late to be used with the regular discussion. Dr. Cryer's paper appeared in the January issue.

statement that this improvement can take place, regardless of the opening of the suture in the region of the maxillæ, but I believe that the essayist himself and all others will agree with me that if the median palatine suture can be opened by a process so simple as pressure across the palate, and by this means the nasal cavities made actually wider, that the likelihood of all these great results will be greatly enhanced thereby, and both the promptness and effectiveness of local as well as general benefit would be much more certain. The question before us to-day then is, "Can this be accomplished as described, or is such a result impossible?" We may accept even, as a Mohammedan relies upon the truth of the Koran, any statement which Dr. Cryer would make with regard to the anatomy of the respiratory tract, and his brief review of the development of the upper and lower jaws is beyond doubt in accord with the best knowledge obtainable on the subject.

Curiously enough, however, the protection given the median palatine suture by the facial and cranial bones, which Dr. Cryer calls attention to as acting "as abutments with flying buttresses and other braces," and which, as he views them, has always made it seem to him to be impossible to open this suture by a force applied to the teeth, offered to me the reasons why I felt reasonably hopeful in first undertaking to open the suture by the use of an appliance making pressure against the teeth across the palate, because I felt that this very resistance made it possible for pressure thus applied to be manifested in the higher region of the maxillary and associated bones, as, according to well-known laws of mechanics, might not be expected in like degree if the teeth and alveolar processes were allowed to spread out without any such resisting external force. It seems to me that the following paragraph, quoted from Dr. Cryer's paper, offers a somewhat unnecessary danger of confusion in discussion by the use of the terms inter-maxillary suture and inter-premaxillary suture:

"A number of pictures have been shown and cases cited by many men of ability who claim to have opened this suture but the only optical evidence I have personally been able to find shows that it is the inter-premaxillary suture that has been widened, and not the true inter-maxillary, which is quite a different thing. Of course there may be conditions in which the bone is so under-calcified that these braces might yield and permit the separation of the palatal process, but in my opinion this cannot take place when the bones of the face are normally calcified."

This confusion may be avoided by adopting the following terms used in the Sobotta-McMurrich *Atlas and Text Book of Human Anatomy*, according to which the suture throughout the central division of the hard palate is called the median palatine suture. The anterior portion of the

median palatine suture as thus recognized is that which divides what was originally the os incisivum, or premaxilla; its posterior extremity includes the division between the palate bones; its middle portion represents the points of contact between the palatine processes of the superior maxillary bones in the central portion of the palate and the inter-maxillary suture is the central division between the alveolar processes of the maxillæ that



Fig. 1.

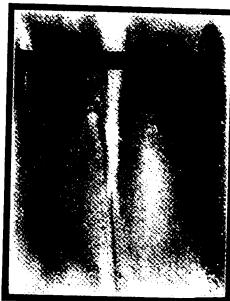


Fig. 2.

Fig. 1. Radiograph of the palate of a boy 13 years of age as it appeared approximately seven days after the use of the appliance was begun.

Fig. 2. Radiograph showing the palate of a young man 18 years of age with the maxillary bones separated after approximately seven days' pressure across the palate against the teeth on each side.

extends from the incisor teeth up to the nose. (Sobotta-McMurrich—*Atlas and Text Book of Human Anatomy*, p. 78, Figs. 100-38.)

Undoubtedly, when the appliance used to accomplish expansion of the dental arch has been one that has made its principal and most active pressure close to the anterior part of the mouth, as has evidently been the case in a number of instances when the published skiagraphs have shown a marked separation between the maxillæ in the anterior portion of the median palatine suture, the effect of the pressure is most apparent at that extremity of the suture. But there appears to be no good reason to believe that the bones would separate so much more easily in this region, where the area of their contact is greater and the bones thicker, than more posteriorly where the bones are thinner and often not completely united by bone structure provided that the pressure be applied at a point farther back in the palate, instead of at its anterior portion. The skiagraphs shown in Figs. 1, 2, 3, 4, all indicate that the suture has been opened throughout its entire length. It appears to be impossible to prevent distortion in making radiographs to show the palatine suture; moreover, it is found that there is a wide diversity of conditions of the median palatine suture when large number of cases are studied by the use of the

X-ray. But granting, as everyone must, that this suture in most individuals is not completely and absolutely united until well on toward middle life (sometimes not even then), and also that, as the essayist states, the malar processes, the malar bones and the zygomatic arches, with their attachments to the side of the brain case, form the lateral abutments, and that these do exert a counter pressure when force is applied against the teeth across the palate, then it seems to me a very natural



Fig. 3.



Fig. 4.

Fig. 3. Radiograph of the mouth of a young man 29 years of age taken more than two years after wide separation of the superior maxillæ for the relief of nasal conditions. The thick black central line shows the development of a new bone along the line of the median palatine suture.

Fig. 4. Radiograph of the palate of a young man 18 years of age. In this case pressure was applied July 21st and stopped August 3rd. During this period approximately two days' time was lost because it became necessary to reset the appliance. Total time applied pressure less than twelve days.

result for one to expect separation along the line of this not firmly united division through the center of the palate. From my point of view, Dr. Cryer's illustrations, Nos. 2, 3, 4, 5, 6, 7, 8, in so far as it is possible for me to determine by description alone without opportunity to study them, each one and all together seem to prove the feasibility of the plan for utilizing this method of securing nasal improvement by separating the superior maxillary bones at their palatal articulation.

In detailed reference to Dr. Cryer's slides we find the points which he has described with reference to his Fig. 1, I have already referred to as opposite in effect, according to my view.

The seven sutures noted in his Fig. 2 apparently leave little room for doubt that pressure across the palate would easily separate the several divisions of the bones involved in such cases, or that this effect would widen the nares by actual increase in size as well as through improved respiration.

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The difference between the use of terms as Dr. Cryer prefers them and the Sobotta-McMurrich anatomy previously referred to is apparent in his description of this illustration. Dr. Cryer defines the sutures as

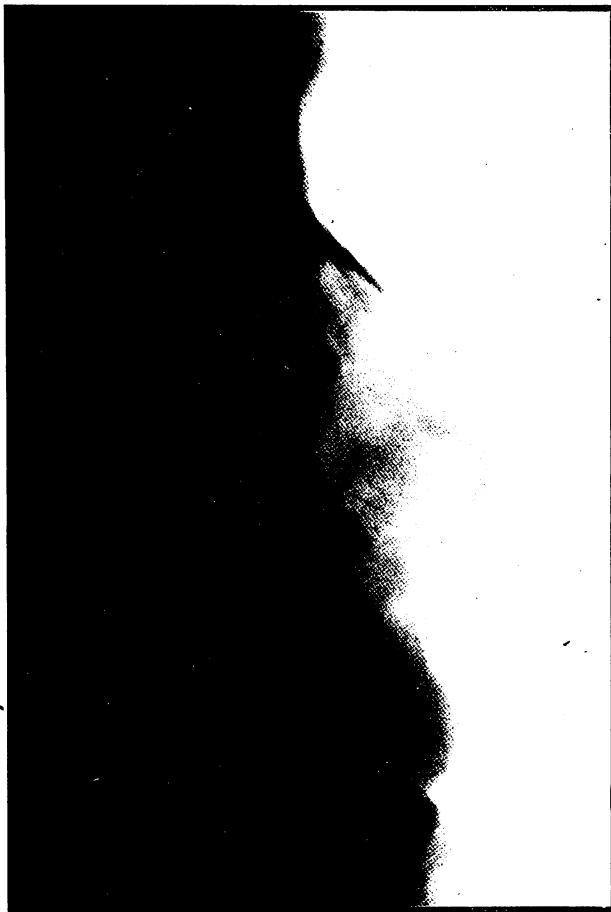


Fig. 5.

Profile view of the boy whose palate is shown in Fig. 1. The separation between the nasal process of the superior maxillary and the nasal bone on the exposed side is plainly indicated by the broad light line. The widening of the nose was distinctly noticeable from the anterior aspect at this time.

follows: "The one extending from the horizontal plates of the palate bones to the anterior palatine fossa is the inter-maxillary suture under consideration. Three other sutures radiate from this fossa. That going forward between the two central incisor teeth is known as the inter-

premaxillary suture, and is the one so often confused with the inter-maxillary suture."

As already noted, according to the authorities quoted, it is the median palatine suture and not the inter-maxillary suture that extends longitudinally through the central portion of the palate the inter-maxillary suture being the one that extends upward between the central incisor teeth through the alveolar process to the nasal cavity.

Beyond doubt, many authorities agree with Dr. Cryer, who is himself an unquestionable anatomical authority, but I feel that the use of the terms as given by Sobotto and McMurrich will, to some extent at least, tend to avoid confusion, such as Dr. Cryer states often occurs in describing this suture.

Figures 3, 4, 5, 6, 7, 8, all show this suture open or lightly held; certainly they present no bar to separation by pressure.

**Enlargement of
Nasal Passages
Claimed.**

Doubtless there are many factors that are influential when spreading the dental arch to give better nasal respiration and improved health, and among them the altered position of the tongue, as Dr. Cryer has so perfectly and originally described it; but this cannot altogether account for the increased size of the nares as ascertained by actual examination and measurement by disinterested rhinologists and others, as proven by my own cases, practically all of which have been double checked in this way through a long series of years; or the measurements reported from intra-nasal records by Dr. Wright, of Boston, whose wonderfully accurate instrument for this purpose seems to leave no room for question in this regard; or the nasal results reported by other investigators that have from time to time been recorded; or the following record of Dr. L. W. Dean, of the State University of Iowa, for a girl about seventeen years old whose median palatine suture I separated (as we believe) and for whom the measurements were made by an instrument devised by Dr. Dean for this purpose with a view of eliminating in so far as possible any inaccuracies that might be due to altered or transitory conditions of the soft tissues of the nose. These measurements were taken in an absolutely disinterested way by an associate of Dr. Dean's, who knew little if anything of the purpose of my appliance, or our expected results from its use.

It will be seen that they absolutely do away with any possible question as to enlargement being confined to the anterior portion of the nose, such as would have been expected if only the extreme anterior portion of the median palatine suture has been separated as suggested by Dr. Cryer:



	A		B		C	
	May 28, 1909		Aug. 11, 1909		Feb. 18, 1910	
	R.	L.	R.	L.	R.	L.
Ant. end Inf. Turb. to Sep.	5	6	8	9	9	10
Middle of Inf. Turb. to Sep.	5	4	7	6	7	6
Post. end Inf. Turb. to Sep.	10	12	10	12	12	12
Ant. end Mid. Turb. to Sep.	2	2	2	2	4	4
Mid. of Mid. Turb. to Sep.	1	2	2	2	2	4

It is a matter of deep regret to me that I have not had an opportunity to examine the specimens shown in Dr. Cryer's other illustrations, for, judging by his measurements and descriptions, I feel that he has shown much that cannot fail to have a far-reaching effect upon our future knowledge of the actual relation of the mouth-to-nose conditions, and these in turn as influencing other parts and organs, as well as the organism as a whole, thus rendering treatment more scientific.

His references to the size and shape of tongues in relation to the forms of dental arches and palatal vaults are of particular interest, and will, I am sure, lead to improved methods of investigation, because

during the past few years, since I have been led to more or less systematic observations of the forms of the tongues of my patients, on account of the possible influence of this factor in speech defects and training. I have been struck with the opportunities that this field of study offered, and have come to realize that its results might be of inestimable value.

In making the application to actual vital nasal conditions of records made upon dry or even frozen specimens, it must be borne in mind that in the former those structures which are most subject to pathologic change are absent, and in the latter there is also absent the possibility of the rapid alterations that are noticed in hypertrophic states of intra-nasal tissues in living subjects which unquestionably alter the results as presented by post-mortem records of measurement.

After approximately fifteen years continuous experience in widening dental arches by rapid expansion, for the purpose of enlarging the nares through separation of the median palatine suture, or, as I have previously called it, "readjustment of the maxillary bones," with almost invariably satisfactory results in giving at least a measure of intra-nasal relief, it is with surprise that I note a more or less marked tendency among orthodontists to question the practicability of this simple process; the more so because the idea is not new. Undoubtedly most of those who regulated teeth according to older and perhaps somewhat cruder methods have occasionally been more or less alarmed by the unexpected parting of the central incisors through separation of the maxillary bones. Usually references that have been made to this condition were formerly along the line of caution against its occurrence.

**Influence of
the Tongue.**

**Previous Claims
As to Opening the
Median Suture.**

Dr. Clark L. Goddard, in Kirk's *American Text Book of Operative Dentistry* (the second edition of which was published in 1900), makes the following reference:

"Separation of the Superior Maxillæ at the Symphysis.—When strong pressure is applied upon molars and bicuspids to spread the arch the superior maxillæ may be separated at the symphysis. Such separation was first recorded by Dr. E. C. Angell, of San Francisco, in 1885, and has been noticed by Guilford, Black, Talbot, Farrar, Ottolengui, and others since. (C. L. Goddard, Second Edition Kirk's *American Text Book of Operative Dentistry*, p. 698.)

Bogue and other operators with whom I have discussed the subject describe having had similar experiences. Dr. F. M. Willis, of Utica, N. Y., in the *Dental Cosmos* (July, 1911, pp. 784-86), gives a very clear description of some cases in which successful results were obtained through separation of the maxillary bones for patients of Dr. J. S. Kirkendall, of Utica, N. Y., and Dr. Varney Barnes, of Cleveland, Ohio, has also contributed much evidence in this direction.

In my own early practice I have sometimes been quite seriously alarmed by having caused it inadvertently. The first case in which I performed this operation for the specific purpose of immediately increasing the width of the nares in a case of almost total deafness, in order that Dr. Nelson M. Black, of Milwaukee, might be able to catheterize the Eustachian tubes to relieve the aural condition, has been widely reported, as have many cases since treated in association with many rhinologists in many parts of this country. In fact, so many such results have been published, or otherwise recently reported, that only a passing notice is practicable at this time.

In support of my own belief I offered the following summarized evidence in proof that it is at least well founded:

1. Large numbers of cases in which, within a period of approximately seven days to two weeks, the central incisors have moved apart without the direct application of any force whatever to these teeth, and in which, according to the reports after examination by rhinologists, there was corresponding improvement in the intra-nasal conditions, with evidence of increase in the size of the nasal chambers. Among these were many cases of recognized disease of the nasal accessory sinuses, which gave evidence of such prompt improvement through better drainage that the shortness of time alone would seem to preclude the possibility of this benefit being brought about in a more indirect manner.

2. I have demonstrated by the use of a green skull that force applied across the palate can be made to separate the median palatine suture



through its entire length and also the intra-maxillary suture, and that the width of the nares can thus be actually increased.

The pictures of a green skull thus treated have been widely published, and the head itself, with these sutures separated and the appliance in place, was exhibited at the meeting of the American Medical Association in Chicago, in connection with a paper read before the Section of Stomatology of that Association. Moreover, the actual separation was accomplished in the presence of reliable witnesses. This statement appears to be called for because I have been given to understand that others have not been successful in accomplishing a like result. Personally, I do not consider this a very accurate test. There are many conditions pertaining to the character of the specimen, the nature and direction of the force applied, as well as other questions, that may tend to alter the results in this kind of demonstration. It did, however, prove that when separation does take place along the line of these sutures, as a result of force applied across the palate, it is complete, and the nasal chambers are correspondingly widened.

3. I have had one case of fracture due to an accident with a motorcycle, the jar of which forced the lower jaw against the upper in such a manner as to force the maxillæ apart. In this case the maxillary bones were so widely separated that the overlying muco-periosteum was torn apart. The primary object in sending for me was to have the palatal fissure closed. This, however, was unnecessary as soon as the bones were pressed together again. I have also been called into consultation in one other similar case in which there was separation of the median palatine suture as a result of an automobile accident. In both these cases there was fracture of other facial bones, which appeared to have been occasioned by the forcing apart of the upper maxillæ as a result of the traumatism. Each appeared to establish the fact that the force accidentally applied immediately parted this suture, just as occurs when an appliance is used for the purpose.

4. In one of my patients, a little girl about eight or nine years old, the forcible straightening of the nasal septum by the injudicious use of a nasal splint forced the lower edge of the septum down through the median palatine suture until its lower border could be felt upon the palate surface.

5. Not infrequently there is a marked depression, sufficient at least to indicate the absence of bone tissue that may be noted by external examination above the central incisors when they have moved apart in the course of maxillary separation as described, and occasionally in the central portion of the palate the change in the central suture may be recognized by digital examination. The line along this division may also at times be observed in an impression of the mouth, taken immediately after the

removal of the appliance, when for any reason a wide separation of the maxillary bones had been necessary.

6. The patients themselves almost invariably recognize the difference in nasal breathing, and this improvement occurs when other evidences indicate that the nose has been widened and the volume of air correspondingly increased at each inhalation. The degree of the change is naturally governed by the condition of the nasal mucous membrane, which may be rapid or slow or variable in its response.

7. Patients also commonly report feeling the effect of pressure in the malar and nasal region when the nut is turned tightly after the maxillæ have separated.

8. Rhinological examination almost invariably discloses that there has been an immediate enlargement of the breathing space. Practically all such patients in my practice are referred to rhinologists for examination as soon as the incisors are moved apart sufficiently to warrant the belief that there will be a noticeable change within the nose.

9. The X-ray gives pictures such as Figs. 1, 2, 3, 4.

10. Fig. 3. The radiograph of the central portion of the palate of a man 28 years old, whose upper maxillæ were widely separated because of marked intra-nasal deformity and nasal disease, associated with pathologic conditions of the nasal accessory sinuses and debilitated general state, which made him practically incapable of even reasonably continuous mental or physical effort (all these symptoms have since almost entirely disappeared), taken two years after his mouth was expanded, shows a dark, broad line, which seems to indicate that bone has been developed along the line of the interspace between the bones separated through the median maxillary suture, just as one would be led to expect would occur under any other similar condition.

11. The outward appearance of the nose in many cases is changed by the altered positions of the bones. Sometimes the nasal bones appear to be carried apart, so that the broadening of the nose is apparent to the naked eye and the separation can be felt along its anterior surface. In other cases the broadening seems to occur along the line between the sutures of the nasal bones and the nasal processes of the superior maxillary bones. Fig. 5. A radiograph of the nose of a boy eight years old, taken in profile, shows a distinct line of separation between the nasal process of the superior maxillary and nasal bone on the exposed side, and corroborates the conclusion that a change in the relation of these bones has occurred, as indicated by the external appearance of the boy's nose.



Dr. Cryer's Reply to Dr. Brown.

It was unfortunate that Dr. Brown was not at the Chicago meeting when the paper was read, so that he could have seen the slides as they were thrown on the screen and minutely described. He has seen neither the slides nor the specimens from which they were made.

Dr. Brown speaks of confusion in the names given to the sutures of the upper jaw, saying: "This confusion may be avoided by adopting the following terms from the Sobotta-McMurrich *Atlas and Text Book of Anatomy*." I regret that Dr. Brown prefers the nomenclature of this work to that of the generally accepted American and English anatomies, as many of the terms in this book have not been translated to conform with English usage. For instance, in Plate No. 38, referred to by Dr. Brown, the inter-premaxillary suture is called the inter-maxillary suture, while in Plate No. 100, also mentioned by Dr. Brown, it is called a portion of the median palatal suture. Again, in Plate No. 100, the term inferior orbital fissure is used, which to us is known as the spheno-maxillary fissure—a much better name, explaining as it does the location of the fissure between the sphenoid and the maxilla. The zygomatic process of the maxilla, which we know as the malar process, is also spoken of, and so on throughout the book. Dr. Brown speaks of the "os incisivum, or pre-maxilla," as though the two were synonymous. I think this is a mistake. The inter-maxillary bone, or os incisivum, is formed by the two pre-maxillary bones, which usually contain the incisor teeth or their germs. I have the strong feeling that when we are the proud possessors of the works of such men as Allen, Leidy and Piersol, it is rather a mistake to go gunning in foreign fields.

In order that we may be understood as speaking of the same thing, I wish to state that throughout my paper when using the term "inter-maxillary suture" I mean the suture that passes between the true maxillæ, and when speaking of the inter-premaxillary suture I mean the suture that passes between the premaxillary bones throughout life regardless of teeth or alveolar processes. By the median palatal suture I mean the entire suture beginning at the free margin of the hard palate or posterior nasal spine, passing forward between the palate bones, thence between the true maxillæ to the anterior palatine fossa, then forward between the premaxillæ and terminating at the anterior nasal spine.

I am much gratified that in the main points of the paper Dr. Brown and I are in accord. I think he fully agrees with my statement that the widening of narrow dental arches allows the tongue to move forward, taking its normal position, thus relieving the obstruction of the pharynx, permitting free respiration, drainage, and ventilation, and also relieving

the congested condition of the erectile tissue and mucous membrane of the nose, accessory sinuses and ducts, all of which gives better breathing space and olfaction, and in some cases even improving the hearing.

Dr. Brown also agrees that the inter-premaxillary suture may be widened, as his X-ray pictures, Nos. 1, 2, 3 and 4 indicate. We do differ, however, in regard to the widening of the inter-maxillary suture, and Dr. Brown's pictures *do not show that this can be done*.

I wish the doctor could have seen the X-ray slides used in illustrating my paper, which showed apparently a marked opening of the entire median palatal suture. This appearance, however, was only due to the passing of the rays through the thinly calcified bone along the suture, as exhibited by the specimens on subsequent examination, demonstrating that X-ray evidence cannot be accepted on this point.

Dr. Brown refers to several cases under certain numbers as 1, 2, 3, etc. In regard to paragraph No. 1, it is not at all difficult to understand why the inter-premaxillary suture is opened in cases of this character. When one thoroughly knows the construction and development of the internal anatomy of the face it is easy to understand why the incisor teeth and their processes separate and spread apart when a mechanical force is applied to the teeth in order to widen the dental arch. Each tooth has its own alveolar process; these processes are bound together by connective-tissue fibres which vary in their number and strength of union in different parts of the circumference, becoming less strong in the process belonging to the canine and lateral incisor teeth, while between the two central incisors there are no bonds of union; consequently, when a force is applied the circumference must increase by the stretching of the connective-tissue fibres of the alveolar processes, and as the median line or inter-premaxillary suture is the weakest point, it naturally opens when sufficient force is used, while the inter-maxillary and inter-palatal sutures are so well braced by other structures of the face that they do not open unless there is something radically wrong with the skull.

In regard to paragraph No. 2, in which Dr. Brown speaks of having opened the entire median palatal suture in a green skull, I can only say that I had hoped to see this or similar skulls at Chicago and would be very glad to see one at any time.

In reference to paragraph No. 3, again I agree with the doctor that severe injury might cause the opening of the median palatal suture. In a case that came under my notice, a railroad yardman has his head caught between two car buffers, which opened several sutures, fractured the malar bone, zygomatic arch, maxillæ, and mandible.

Nos. 6, 7, 8, 9, 10 and 11, I think can be answered by referring back to the body of my paper.



I desire to thank Dr. Brown for his interesting discussion and kindly appreciation and can only repeat my regret at not meeting him in Chicago.

Discussion on Dr. Cryer's Paper.

**Milton C. Watson,
Detroit.**

The majority of us, I think, are ready to accept Dr. Cryer's opening statements regarding the improved breathing capacity, the effect upon the accessory sinuses and upon the general health which, *under certain circumstances*, follows the widening of the dental arches. His explanation of how and why these changes follow differs somewhat from that of a majority of writers, and yet when we take into consideration his wonderful experience in the anatomical field, we are bound to ponder carefully what he says and to wonder if his explanation, with some features of it emphasized and slightly modified, is not after all the true one. The modification that seems to me necessary is this: the improved breathing capacity which Dr. Cryer attributes to the freeing of the tongue is merely the first step, and would not in itself and of itself be wholly responsible for the marked improvement that eventually takes place in the breathing capacity. I am quite ready to believe that it is really the beginning, and I am also very confident, in my own mind, that a very marked and rapid development of the bony structure of the internal face follows orthodontic treatment, especially with very young patients. That this secondary stage, just mentioned, may be due largely to the renewal of developmental activity which naturally follows the restoration of function and not to the stimulation produced by moving the teeth is quite possible. There is, at any rate, a change beyond that due merely to the improved tone of the soft tissues.

If the improvement in the breathing capacity were due wholly to the change in the relation of the tongue to the oropharynx, then we would naturally have a right to expect this change to follow, after widening the dental arches, regardless of the age of the patient, and experience has proven all too often that such is not always the case.

Dr. Cryer states that a well-marked constriction of the dental arch may be found associated with a very well-developed width of the floor of the nose. That this condition does sometimes exist is true beyond any question, but my own observation would lead me to believe that such a condition only exists once where marked maldevelopment throughout the bony structures of the internal face is in evidence many times. It is a matter of common observation among orthodontists that cases do exist in which the character and degree of the dental deformity seems to be in evidence throughout the entire face, both externally and internally, so

far as one is able to see, and that this whole condition changes to a marked degree following orthodontic interference on young patients, all of which would seem to indicate that we exert a very positive stimulating influence on bony structures quite remote from those actually operated upon when we correct a malocclusion of the teeth.

In view of the apparent evil influence upon so many of the bones of the face which Dr. Lawrence Baker has been able to demonstrate in his experiments in grinding the teeth to prevent occlusal contact, it seems not strange at all, but quite logical and natural, that the profound stimulating influence produced by moving the teeth should also influence beneficially these same structures, and the number of observers who record such results must not be passed over without due and careful consideration.

I should like very much to have Dr. Cryer explain a little more fully just what he means by the statement that "It is a question whether the narrow dental arch is in itself pathological or whether it is a morbid anatomical condition produced by an early pathological process."

**Opening the
Median
Suture.**

I am in hearty accord with the sentiments expressed by Dr. Cryer regarding the uncertainty as to whether or not the true maxillary suture is opened as often as some writers would have us believe. I have never seen but one case where I believed such a result obtained, and it was not accomplished by pressure against the teeth alone, but by a vulcanite plate completely covering and accurately fitting the crowns of the molars and bicuspids as well as the entire roof of the mouth; this was then cut lengthwise through the center with a heavy spring adjusted high upon the arch of the palate so that the pressure was directed against the palatal process to even a greater degree than it was against the teeth. This case was under the care of an inexperienced man, and the opening of the suture, if it really did occur, as I believe, was purely accidental.

The cases that I have seen where it was claimed that the suture had been opened were, I believe, merely cases where the arch had been rapidly widened and where the separation of the inter-premaxillary suture, together with misleading radiographs, led to a false interpretation of what had actually occurred. Dr. G. V. I. Brown showed pictures of a green skull before the American Laryngological, Rhinological and Otological Society some three or four years ago, in which he had succeeded in opening the suture by pressure against the teeth and used it to prove that the suture could be opened, but in my discussion of that paper I took the position that it was the logical thing to expect in working on a green skull, but that it had little or no bearing on what would occur in the living

subject. I have seen no reason yet to recede from that position, though I should like to know what Dr. Cryer thinks about it.

Just at this point I should like to emphasize the need for making it clear to rhinologists and physicians generally—though it is irrelevant so far as the discussion of this paper is concerned—that the widening of the upper arch alone, except in rare cases, is an impractical operation. You men, of course, know that proper occlusal relations must be established with the lower arch or the operation will end disastrously, but this is not clear to many physicians, as I happen to know, on account of having been severely criticized several times for refusing to attempt to open the inter-maxillary suture without at the same time widening the lower dental arch.

This subject is intensely interesting to me and I should like to pursue it much further, but I feel that I have already taken enough of your time.

In rising to discuss this excellent paper of Dr. **Dr. H. A. Pullen, Buffalo.** Cryer's, I wish to congratulate him on the solving of some of our most difficult problems in treatment by pointing out the only sure guide and knowledge, at least macroscopically, of the hard and soft tissues which are associated structurally with the field of the orthodontist.

To those of us who are unfortunate enough not to be able to spend the time in original research work on skulls of human beings and animals, such papers as those presented at this meeting by both Drs. Dewey and Cryer are of inestimable value. From time to time Dr. Cryer has most generously allowed me, and others, the use of slides of these anatomical specimens for teaching purposes for which I am especially grateful.

It is extremely pleasing to know that the most eminent head anatomist of the world can heartily endorse orthodontic treatment as a beneficial procedure toward producing normal structural relations, hence normal physiological relations both in the internal face and indirectly through increased respiration and improved digestion, the entire human economy.

Dr. Cryer has shown by the exhibition of specimens that an undeveloped arch does not always mean an undeveloped nasal cavity and vice versa, but I do not think he would wish to detract by the exception, from the generally accepted hypothesis that the expansion of the dental arches increases or stimulates development of the nasal cavities through the extension of mechanical stresses upward and outward in arch expansion.

If the growth of these structures is independent one of the other,

our hypothesis that expanding dental arches develops the superimposed structures of the nose falls somewhat flat.

It is a new point to many that the contracted or undeveloped dental arch causes the tongue to drop backward and close the air passage in the naso-pharyngeal region, thus causing most of the air to be inspired through the mouth, and then through a wrong stress of the muscles on their bony attachments to change the relationship of the bones themselves.

In interpreting the vicious cycle of the mouth, nose and pharynx, it is a little difficult to mark, then, the particular region in this cycle which first exhibited the pathological change in function and started the cycle, for the same reason that it is difficult to lay one's finger on a particular spoke of a revolving wheel.

When this vicious cycle is complete, the symptoms of faulty structure and function are evident all around this cycle and only a complete history of the normal and then of the abnormal development in the region of the mouth, nose, and pharynx can give us the clues to the particular pathological or abnormal feature which started these interdependent pathological conditions.

I have seen tonsils as large as walnuts which I believed interfered with the air passage of the naso-pharynx, causing mouth breathing, mesial occlusion of the teeth, wrong stress of muscles, diminution in stature, earache and muffled tone to voice, etc.

Again, I have been certain that adenoid tissue, becoming enlarged and blocking the naso-pharynx, or by blocking the lymph supply, or in some other way, started this same vicious cycle.

Finally, if contracted or undeveloped dental arches by forcing the tongue to take a backward position started this vicious cycle, we have yet to determine in these cases what caused the undeveloped arches, unless it be lack of nutrition, lack of function, or faulty structure through rickets or some other disease.

I have repeatedly stated that just in so far as we can determine the relation of the etiologic factor to the faulty development in these cases, can we properly diagnose and treat malocclusion.

I do not believe that it has been proven that some peculiar interference with the pituitary bodies which control harmonious development has not more of a bearing on the subject of development of the internal face than we are prone to credit it with.

Beyond all of the local causes for these faulty developments of the internal face there may still be a more remote cause of such faulty developments as are exhibited in the leptoprosopic skulls, with long, narrow faces, thin and high nose, small orbital cavities and accessory sinuses, small nasal chambers, a high-arched palate and undeveloped dental arches.



Many of these cases as pointed out by Dr. Hartz, of Detroit, we are tempted to say were produced by nasal stenosis and mouth breathing, the fact being, however, that many of them never had nasal obstruction, although from their appearance it would be the natural inference. "Such patients are very prone to nasal stoppage by inflammation and the smallest portion of the pharyngeal tonsil may produce complete occlusion."

**Opening the
Median
Suture.**

In a recent article I have commented on the operation of "opening the suture," so called, and have felt that I was on safe ground in saying that the operation is not advisable in all cases, that is,

presuming that the suture can be opened, but only in those cases in which the diagnosis of extremely bad nasal conditions would warrant an operation that promised more immediate relief from deficient respiratory function by rapidly widening the nasal space and increasing the function of respiration.

In all of the cases in which it has been claimed that the suture has been opened, the claim has been made that the respiratory function was increased after treatment, and this evidence is significant if we can trust the veracity of the investigators, for it would tend to prove that the attempted suture opening was beneficial, whether it opened the suture or spread the palatal plates.

From a macroscopical examination of Dr. Dewey's specimens, the evidence of the suture not being opened is positive, although this is only the first experiment and only one dog was operated on.

One factor seemed to be established, however (if we can trust the evidence of the tightening of the teeth in the dog whose arch was expanded as indicative of bone development being caused by the mechanical stress), and that is, that the rational treatment of malocclusion has not yet proven to be other than the slow, gradual stimulation of the bone, causing the greatest development of the dental arches, according to Nature's physiological plan, to which method the majority of orthodontists are inclined.

If the suture is not opened in the operations described by Drs. Barnes and Hawley and others, then it remains for our anatomists and original researchers to show us in further histological studies what does happen along the median suture and in other areas of the palate through attempted mechanical separation of the halves of the maxilla.

Dr. C. H. Hawley, Washington, D. C. It is needless to say, it is with greatest gratification that I view the work that has been presented at this meeting on the subject of opening the suture.

These three papers are of great value. As Dr. Pullen has just said, "there is more to be considered in this subject than

merely the question whether or not the suture is opened." It was said earlier in the meeting that, at the present time, the burden of proof is on those who believe that the suture is not opened. That is wrong. At the present time, there is no evidence, so far as we can see, that is reliable that the suture is opened, and the burden of proof is upon those who offer that explanation of an unusual occurrence.

The defect I see in Dr. Dewey's work, although I acknowledge its great value, is that he did not produce a typical operation. There has been an operation that has attracted attention for the last fifty years that is different from the ordinary tooth movement. That phenomenon has been called the opening of the suture, and I wish to call attention here again to the fact that no bad results have ever been reported from it. Some excellent men have reported this operation in our journals, and there are many others who have reported unpublished cases where this phenomenon occurred, yet so far as I know not a single man has reported any bad results. I think that is significant, and worth considering.

In the condition Dr. Cryer has described, if his explanation is true that the contraction of the dental vault has the effect of pushing the tongue back in the mouth, is not the operation that we have been considering the best operation that could possibly be done, because it would relieve that condition in a very short time? It seems to me now, after all the evidence that is produced on this subject in regard to opening the suture, there is still left the consideration of the value of the operation. In what I have observed in my own work, I have no question of its value, and I fail to see a single sign of a bad result, and, it seems to me, that when bad conditions can be improved in so short a time it is something that is worth considering, and I would like to see more attention paid to that phase of the subject. I would like to have Dr. Cryer discuss it.

Dr. Dewey hinted it was possible that development was along the region on each side of the suture, as I proposed last year as an hypothesis. To me it appears to be the region of movement, and his experiments, while he did not produce a typical operation, show rapid development in that region. If that is true, it will be of great value to know it, because it will make a difference in the adjustment of appliances. It will make a difference in the mechanics of this method of moving teeth. If the development can be produced in that region then we can produce it slowly or rapidly as we please. It has been the supposition, so far as I know, of those who believe they open the suture that it must be done rapidly.

Two weeks ago Dr. Brown was in Baltimore, and I had the oppor-



ITEMS OF INTEREST

tunity of talking with him for a long time on the subject, and so far as I could gather, his belief is that the operation should be rapid if you would open the suture. There seems to be a sentiment that we will settle this whole question if it is proven that the suture is not opened; yet, it seems to me, there are a number of things hinging around this operation that will need serious consideration.

In view of certain experiences I have had in **Dr. William J. Brady, Kansas City.** connection with suture opening operations, I believe I should present them while we are on the subject.

I have twice had occasion to use appliances where a jack-screw was placed across the roof of the mouth and used in the good old-fashioned way of twisting up as tight as possible, and in each case there must have been opening of the suture. There was every outside indication of it, a condition existing such as Dr. Ottolengui has described where there was separation between the front teeth, a slightly hollow place extending from front to back along the median suture, the soft tissues tightly stretched and slightly painful at this place. In one case in addition to this the two maxillæ were so loose they could be moved about. I am sure there must have been a genuine suture opening in that case, extending from the front clear back past the first molars.

A Member. That was no suture opening; that was a fracture case and you didn't recognize it. (Laughter.)

Dr. Brady. Well, whatever it was I don't know, for I was too scared to make any examination. I had no thought of pursuing any advantage I might have gained, but only to keep from being found out, in what I had done. (Laughter.) There were no X-rays to use then and I was too excited to think of making an examination by incision or probe. But as Dr. Hawley pointed out, no bad results followed. My patients, who were about eleven or twelve years old, complained of a little soreness; the one with the "fracture" complained more of the looseness of the two halves of the upper jaw than anything else. In each case I hastily took off the regulating appliances on some pretext or other, and kind Providence came to my rescue. Nothing at all happened. The two halves of the jaws settled back to place, the soreness disappeared, and as I was too afraid to do anything more I dismissed each of the patients, saying they were either too old or too young to have any regulating done—I don't remember which—and no trouble came of the occurrence so far as I know.

I want to report another case of a patient of nineteen or twenty years in which Dr. G. V. I. Brown opened the suture rapidly for the purpose of increasing the nasal space, and where I made the appliance

under Dr. Brown's direction. This method has been advocated in articles by Dr. Brown, and has been referred to at this meeting.

In both the other cases mentioned the ordinary jack-screw was used, resting against bars along the lingual side of the teeth, and after about ten to fourteen days the presumed opening occurred. In Dr. Brown's case practically the same appliance was used, except that the lingual bars and the jack-screw were much heavier. The jack-screw was located near the first bicuspids. It was so arranged that the patient could tighten it, and he was given instructions to keep it screwed up to the limit. In about ten or eleven days there was a condition similar to that of my greenhorn days; there was a decided separation between the central incisors, the soft tissues were hollowed out along the line of the median suture back to the molar region, and there seemed to be considerable improvement in the young man's breathing capacity. I believe the suture was opened and the bony tissues actually pulled apart, and I remember that no trouble resulted in the bony structures from the operation.

But I do not believe this is a good operation. In the case described the occlusion of the teeth was completely disarranged. In commenting on this particular point, to which I called Dr. Brown's attention, he dismissed it by saying that a little matter like that did not amount to anything, which goes to show that Dr. Brown does not appreciate the importance of occlusion, and that he did not realize he had ruined the occlusion in his case.

While Dr. Brown is an eminent oral surgeon and I am personally friendly to him, yet I must disagree with him as to the value of his operation for forcibly opening the suture, for followed as he advocates it, the occlusion of the teeth is sacrificed to gain a little wider nasal opening. Pursued along more conservative lines there might be good in it, but this whole procedure of suture opening seems very radical to me. In view of all that has been presented by Dr. Dewey, Dr. Barnes, Dr. Cryer, and everybody else who has reported, I am in about the same condition of mind as Dr. Ottolengui—I do not know whether I believe anything or not—and I should not wonder if there are several others in the same boat.

Dr. Brady has introduced into the discussion

Dr. C. H. Hawley. the question of occlusion of the teeth, but I do not think any man in this society would undertake suture opening without restoring the occlusion of the teeth. Occlusion is not the question, but rather what really occurs when we operate, and *do we open the suture?* Dr. Federspiel suggested a way of opening in and finding out what happens. Dr. Brown has evidently paid no atten-

tion to the occlusion of the teeth. We will not presume that if this operation should be adopted, that any man here would undertake it without restoring the occlusion of the teeth by properly operating on the lower jaw also. That phase of the subject does not come up for consideration.

I wish to relate an experience I had in the case

Dr. Varney E. Barnes, of a boy, seventeen years of age. I put on pressure

Cleveland.

as described, rapidly opening the space or suture, whichever you want to call it, and a depression

appeared in the roof of the mouth, changing the boy from a mouth breather to a nose breather, and since that time there has been rapid spreading of the lower arch, and there is good occlusion of the lower teeth.

Dr. Cryer has shown some illustrations where the nasal cavity is wider in proportion to the dental arch, some wide, some narrow. I think we may explain that in this way: teeth come into the arch too narrow; the posterior teeth have not come forward as they should; the second molar coming forward forces the arch forward; the third molar forces it still more forward, and those teeth, instead of coming into the arch properly, the whole thing comes forward or tries to, and meeting with resistance and pressure of the teeth that are coming in widens the arch in that way. If the patient has no nasal obstruction, I am satisfied the tongue and nasal breathing help to increase the width of the arch. In certain cases before anything was done I took casts of the cases when seven years of age, and then got them at sixteen. The posterior part of the arch widened and the anterior part had not.

There is just one point relative to the develop-

Dr. Frank M. Gasto, ment of the nares to which I desire to call attention.

Cleveland.

The lower maxillary portion of the nasal space is developed to a larger extent after birth than is the

upper two-thirds. The nasal space is divided into the upper and lower portions, the maxillary portion being right over that part of the nose, so that the nasal space is developed to a greater extent afterwards than it is up to that time. If the child has nasal stenosis, breathes through the mouth, if there is pressure of the arch on the palate plus pressure of the muscles on the lateral side of the dental arches, the development of the maxillary portion is retarded to a great extent. It may be almost entirely retarded in some cases, so that the maxilla does not develop downward, the palate preventing that. The vomer continues to develop, and that is one explanation for the buckling of that bone, it cannot come down to its proper strata in the bones of the face.

(Closing.) I am very much gratified by your kind reception of my paper and am glad to know that you are thinking about the subject.

Dr. M. H. Cryer.

Your president, Dr. Watson, asked what I meant by the pathological condition of the narrow dental arches. It was said in the paper, "There is a question whether the narrow dental arch is in itself pathological or whether it is a morbid anatomical condition, produced by an early pathological process." I had hoped that someone would discuss this point, for I am not fully satisfied with it myself. Shall we classify the narrow arch as morbid anatomy, or shall it be considered as the result of some pathological disturbance, either in early embryonic life or produced by some hereditary influence?

Illustration No. 30 shows that the narrowing of this entire face was due to a cause that must have existed about or before the time of development of the maxillary sinuses, this specimen has no maxillary sinus on one side and only a rudimentary one on the other.

As to correcting the deformities we find in and about the mouth, pharynx and nasal cavities, if the dental arches be contracted, then let us spread them to their normal position.

Dr. Barnes spoke about affording quick relief. I know of nothing that will give quicker relief to a congested nasal chamber than removing the obstruction in and about the naso-pharynx.

Dr. M. H. Federspiel.

Do you not find cases of cleft palate in those who are mouth breathers?

Dr. M. H. Cryer.

Cleft palates as a rule are not necessarily associated with mouth breathers, though, of course, a person having a cleft palate usually breathes through the mouth to a great extent. I would like to refer to two illustrations Nos. 1 and 4 in answer to a question about the anterior teeth and their alveolar processes becoming so yielding. In illustration No. 1 it will be seen that the four incisor teeth are in the two premaxillæ; between these bones is the inter-premaxillary suture, having no interlacing fibers. Between the laterals and canine teeth, on each side there is a suture with very slight bonds of union of interlacing fibers crossing it in early life. Illustration No. 4 also shows this lack of the bonds of union between the premaxillary bones, the sutures between the canine teeth and the lateral are covered over but slightly by interlacing fibers which in some cases act as strap hinges from one bone to the other. Now, if pressure be applied between the incisors, the inter-premaxillary suture will open and allow the separation of teeth and the premaxillary bones.

SOCIETY PAPERS



The Keystone of the Oral Hygiene Movement.

By ALFRED C. FONES, D.D.S., Bridgeport, Conn.

Read before the Allied Societies, Boston, Mass., December, 1912.

What is dentistry's highest aim?

Is it merely to perfect itself as a branch of the healing art? ~

Are we, as a profession, always to follow the endless chain of repair caused by dental caries and the treatment of its various complications? If this is so, we must have nearly reached the highest point of our usefulness, for although fine, scientific dentistry is not practiced by the majority of the profession, yet the most scientific methods are known, and it would seem that the operative technique as well as the therapeutic treatment had reached fairly close to an ideal point. Indeed, we need but the perfection of an enamel cement filling to make much of our operative work simplicity itself. Not but that there will still be refinements in the future to perfect these details, but the art of restoring lost tooth structure is well known, as well as the curing of the soft tissues of the mouth which have become diseased.

But men who grow and move on with the times are not content to move along year in and year out in this rut. Surely there is an ideal to be reached that will bring greater satisfaction than a beautiful porcelain or gold inlay or a finely constructed crown or bridge.

To the many, at present, this mechanical or operative ability is all-sufficient, but those who really love their profession and are striving to give each patient the best service possible will say to themselves, "After we have restored these mouths to a normal condition, how can we keep them in a state of health?"

**The Two Chief
Factors in
Health.**

In other words, can we not get at the source of disease and maintain health? That one word—health—is the dawn of our ideal of the future. Health rests upon two great foundation pillars. One is food supply to the body, the other is cleanliness. There are other factors which also must be considered, such as heredity, fresh air, sunshine, exercise, mental attitude, etc., but the two main factors are food supply and cleanliness.

By food supply I mean what you eat, how much you eat and the manner in which you eat it. Surely the future must demand that the dental surgeon not only produce and maintain healthful conditions of the mouth and teeth, but that he must be an authority on what to eat, how much to eat, and the manner in which it should be eaten! In other words, his sphere is to be enlarged in studying the proper *use* of the teeth. Not merely will he restore lost tooth structure with an ideal filling and produce and maintain a healthful condition of the mouth, but he will act as an adviser and educator in teaching his patients what those molars should masticate and the manner in which it should be masticated. If in the near future he fails in scientific advancement to reach such a position in the community in which he lives, it will be because he has not grasped his opportunity.

To go into the subject of food supply and its immense importance for health balance would take an evening by itself. I will, however, mention these truths. First, people living an indoor and sedentary life should eat but very little meat. Without exercise and enforced breathing to oxidize and burn up these nitrogenous foods they become irritants and poisons, and, like slag, are difficult of elimination.

Second, the body can be maintained for twenty-four hours on the amount of food you can easily hold in your two hands.

Third, nothing should be swallowed that cannot be dissolved in the mouth by mastication, as gristle or the fibrous part of vegetables. Such products are merely food for the bacteria in the stomach and intestines, and may quite possibly become the exciting cause of appendicitis. Do not eat when excited, angry, or temporarily worried. You would be far better off, under such conditions, to go without food. Learn to thoroughly masticate each mouthful of food and, like the French, "eat with laughter and good cheer."

The day is not far distant when food values will become a very important part of the college course, and the newcomer into dentistry will then have sufficient knowledge to stimulate him to study and learn more of the subject.

He will then appreciate that the proper food supply to the body is the

governing factor in maintaining health balance; that susceptibility to disease usually comes from overfeeding, or of tissue starvation from improper foods.

The natural tendency of all tissues of the body is for health. Like the needle in the compass it may become deflected now and then, but the moment the cause for the deflection is removed, back comes the needle to its normal position. The clogging of the intestinal tract with an over-supply of nitrogenous foods is the city man's chief enemy to-day.

Then comes the next great essential for health—cleanliness. Clean food, clean water, clean bodies, clean mouths and clean environments.

Effect of Cleanliness on Health. Whereas the study and appreciation of food supply is a dawn of a to-morrow, so the day of cleanliness is here and the sun is up. Now let us analyze what we mean by cleanliness.

Germ life is omnipresent. It is everywhere. Every square foot of ground and every cubic foot of air contains millions of these micro-organisms. And without them we could not live. For in their effort to secure carbon by decomposing dead animal and vegetable matter, they supply plant life with much of its necessary amount of carbon, and plant life is essential for animal life; hence our obligation to micro-organisms. But in the process of decomposing dead animals or vegetable matter for the feast, the elements temporarily liberated, such as carbon, oxygen, hydrogen and nitrogen, may reunite in new combinations and form rank poisons, especially those containing nitrogen.

So if man is unclean in his environments it is not difficult for him to have his food or water supply contaminated. Germ life is quite harmless unless it has a food pabulum upon which to grow, develop and thrive. A million germs on a clean glass slab are harmless, but smear the slab over with particles of moistened fish, meat, cream, potatoes, etc., and leave it in a warm room for seventy-two hours, and you then have a culture bed that can breed disease.

Germs may lie dormant for a long time on account of lack of a food pabulum upon which to feed and become active, but give them a food supply and they soon become aggressive and dangerous. And so it is that in a great measure a city is free from disease if sanitary laws are enforced, no rubbish allowed to accumulate, the garbage properly looked after, stagnant water eliminated by drainage, the streets flushed and kept clean; in fact, all material that may be decomposed by bacteria to be swept away by sewers, thus rendering germ life in our cities inert.

And what is true of the cities is true in every particular of the individual, and this thought brings us to the real topic of the evening, the

necessity for clean mouths. The mouth is an ideal incubator for germ life. For here are found the four essentials in perfection. First, just the proper temperature; second, a sufficient degree of moisture; third, darkness; fourth, a choice of food pabulum, so that all varieties may find in this ideal restaurant just what they like best.

When we find localities on the earth's surface considered extremely healthful and not conducive to development of germ life we will usually find that one of these four essentials, possibly two, are missing. In high altitudes, where there is plenty of sunshine, or on the desert, where moisture is lacking. In our refrigerators, in cold storage, warmth is lacking. In the mouth it is impossible to eliminate warmth, darkness, moisture or germ life, but it is possible to so prepare the surface of the teeth that the patient can readily remove all food débris, and in this way render micro-organisms harmless and inert. It is upon this one thought that dental prophylaxis is based.

**Prophylaxis
Not a
Specialty.**

And let me state right here that I cannot conceive of a D.D.S. making a so-called specialty of prophylaxis. Prophylaxis is that surgical and scientific effort to prevent disease, and nearly every operation in dentistry, if scientifically carried out, constitutes a part of prophylaxis.

To enumerate some of the operations I would say: First, proper contact points of approximal fillings to protect interdental spaces. Second, smooth, polished fillings with no overlapping edges to hold food débris. Third, crown and bridge abutments with flush joints and no shoulders along the gingivæ. Fourth, the correction in childhood of malocclusion. Fifth, the painstaking work of perfect root fillings. Sixth, the removal of all lime deposits around all the surfaces of all the teeth and a thorough polishing of all the surfaces of all the teeth. Seventh, the proper instruction to the patient in the proper use of the toothbrush, the floss silk and lime water. On the one hand, all of these operations tend to the normal restoration of the teeth, and the preparation of their surfaces for the thorough removal of food débris; and on the other hand, the patient under proper instruction should keep the food removed and the gums properly stimulated by brushing. Under such analysis you can readily comprehend my contention that prophylaxis is not a specialty of dentistry, but really covers the whole field, and yet it is next to impossible to keep the surfaces of our patient's teeth polished and free from deposits and do all this reparative work ourselves.

**Importance of
Thorough Tooth
Cleaning.**

The instrumentation and polishing consumes so much time if done at frequent intervals that one would be compelled to confine his practice to a comparative few in order to give them this much-needed service. There is so much operative work to be done



ITEMS OF INTEREST

that the average practitioner feels he cannot give his time to these surface treatments. Yet, in adult life it is far more important than the mere filling of cavities. The life of the foundation of the tooth itself, the root, is now menaced by the lime deposits under the gingivæ, and unless this is removed at frequent intervals gingival disease is almost sure to develop. Eighty per cent. of dental decay can be prevented by these surface treatments at frequent intervals with the patient following a system of home treatment of brushing, flossing and the use of lime water.

But we must have help if we hope that this great

The Dental Nurse. movement of mouth hygiene which is now under way will ever amount to anything. It will succeed only when the dental nurse or prophylactic assistant is firmly established in the dental offices throughout the country. She is the keystone for future efforts to spread this great work for clean mouths, and not until dentists can have the help of such an assistant can we hope to control the flood of dental decay which invades every populated centre of our country.

It should not be necessary to go into detail before a body of professional men in dentistry regarding the harmful effects, both locally and systemically, of decomposing food in the mouth. It should not be necessary to repeat over and over again that the root is the most important part of the tooth, and that, in adult life, the removal of lime deposits around the necks of the teeth at frequent intervals is a more important service to the patient than the filling of teeth. I would rather believe that you feel helpless to combat this unhygienic and disease-breeding condition alone and without assistance than to think that you fail to recognize its danger and appreciate its harmfulness in producing ill health as well as the loss of the teeth.

Need of the Dental Nurse. Just as much as the surgeon needs the help of the medical nurse in preparing the patient for an

operation, so do we need the woman assistant to clean and polish the surfaces of the teeth, to give us a clean field for our examinations and for our operations. And so do we, as busy practitioners, need these women to aid us in assisting in training our patients in the faithful and proper use of the toothbrush, and also to have the patients return at frequent intervals, varying from one to two months to have their teeth given a thorough surface treatment. After patients have been under such a system of treatment for a year and have enjoyed the comfort of clean, healthy, sanitary mouths, they would be very loath to go back to the old system of neglect and indifference.

After twelve years of work and study in prophylaxis I believe the only practical solution to our problem of the advancement of mouth hygiene and the prevention of dental as well as many systemic diseases,

is the advent in dentistry of the woman prophylactic assistant. In no other way I can see the solution of this problem. The gospel of the tooth-brush alone will never do it. The average dental practitioner will not give sufficient time to it. Children and adults are losing teeth by the thousands just for want of a little help and instruction. Are we, as a profession, going to supply this much-needed service? Surely the orthodontist must have such assistance. It is entirely in your own hands whether you want to move on in this progressive march or not. Let us assume that you do.

**The Legal
Aspect of the
Dental Nurse.**

The question at once arises, "Can we legally have such an assistant, and if so, where can we secure her?" I have no desire to invite mutiny, neither would I advise such action, providing an amendment

to your law to permit of the practice of the dental nurse could be agreed upon. But I will say that if I were a resident of Massachusetts, or any other State in the Union, and wished to train a girl to aid me in giving these surface treatments of the teeth, I would do it in defiance of any dental law that there is in existence, and would challenge you to stop me. You might as well say, as Dr. Rhein has said, that a medical nurse should take out a barber's license, because she at times finds it necessary to shave a patient. If she is aiding under the instruction of a surgeon and is not doing surgical work, do you suppose that the law is going to hamper the surgeon by insisting that the medical nurse secure a barber's license as well as one from the Board of Pharmacy?

Your dental law may be so worded that not only shall the teeth not be examined for compensation, but that no one but a legally registered dentist shall give advice concerning the teeth and receive compensation therefrom. In fact, you may play the part of a union and selfishly cover every possible phase of the subject with words and make it into a law, but is a law so drafted worth anything in these details? Is it drafted for the interest of the public or for the protection of the dental profession?

Remember that class legislation is not constitutional, and there are many laws on our statute books that would not stand a test in the higher courts in our States. Where you can prove that the public health is endangered, that fraud is to be practiced, that disease is to be treated by incompetent persons, etc., you stand on firm ground, but when you attempt to so legislate that the public is to be deprived of a much-needed service at a reasonable compensation, when such service would be helpful and beneficial, when it would not include the treatment of disease, but on the contrary would in a great measure prevent disease, your laws on such points are made of straw.

In no sense can these surface treatments of the teeth be considered dental operations any more than the manicuring of the nails can be con-

sidered surgical. The work of the dental nurse is not one for the treatment of disease; it is purely one to prevent disease and to prepare the field of operation for the dental surgeon.

Section 11 of the Act concerning the registration of medical nurses in Massachusetts says, "This Act shall not apply to gratuitous nursing of the sick by friends or members of the family, nor to the acts of any person nursing the sick for hire who does not assume to be a Registered Nurse." In other words, the title of "Registered Nurse" takes with it a partial guaranty that the individual has received a course of instruction and training and should be competent, but the law does not prevent anyone else from receiving compensation for acting as a nurse or in aiding the surgeon or physician in his work, so long as the nurse does not attempt to treat disease nor use the title of Registered Nurse. But in order that the dental nurse should be limited to dental offices, clinics and institutions for the present, and that they should be under the supervision of licensed practitioners, I would strongly urge an amendment to your law permitting of such assistants.

**Duties of
the Dental
Nurse.**

There seems to be a variation of ideas as to what these dental nurses should do. I have had one for eight years who has done nothing but clean and polish the teeth of my patients and instruct and coach them in the care of their mouths, and I am now training a second assistant. These girls are to do nothing else. If I need anything more than this, excepting assistance around my chair, I would need a graduate or a full-fledged practitioner. The moment you cross the border line into disease you must then have the licensed practitioner who has proved before your State Board that he is competent to treat disease.

Although much of this work on the surfaces of the teeth can be learned in a comparatively short time, yet considerable knowledge of the anatomy of the jaws and teeth, as well as their pathology, is quite necessary for several reasons. In the first place, if a woman is to retain her interest in the work and become an enthusiast in preventing disease and maintaining healthful conditions, she must know the science of her work. Again, if she is to establish confidence in the minds of the patients, she must be able to intelligently answer their numerous questions and be convincing in her statements regarding the home care of the mouth.

**Training Schools
Advocated.** And so it would seem that a training school with a suitable course of lectures would be very desirable in every large city. As the hospitals afford the training school for the medical nurse, I believe the public school clinics will eventually be the training schools for the dental nurse. With a course of lectures provided for her attendance by the local dental

societies, hospitals, or dental college, if there is one in the city, and with the children in the public schools to receive the practical treatments, in this way developing her skill, not only would the children be greatly benefited with their clean mouths and sound teeth, but the dental profession would have a plentiful supply of these trained assistants to aid in spreading the gospel of cleanliness and prevention to their patients.

Here in Boston you have an excellent opportunity for starting a course in the dental colleges where the lectures and practical training can be so easily obtained. Most cities are not so fortunate, and while the preventive school clinic is sure to come, it will be slow on account of the educational campaign necessary. Your college course could be launched at once.

Change means progress. For we can have no progress unless we are willing to try the new. Too much conservatism means inertia, marking time, and eventually a slow decadence. The dental nurse has arrived. She is here waiting. You need her. The public needs her. Are there enough men in this profession in your State with the negative spirit to hold back this next step of progress? I hope not.

Process Patents from the Dental Standpoint.

By DR. EMORY A. BRYANT, Washington, D. C.

Read before the S. A. M. Convention, Atlantic City, N. J., June, 1912.

I have taken the title of my paper as a vehicle for some expressions of thought upon the subject of patenting of processes and methods of dental procedure.

It is a subject that is timely and of general interest to the profession at this moment from the fact that we are again menaced by litigation with all its attending evils.

As the Chairman of the Committee on Patent Legislation of the National Dental Association, I have been invited to appear before you and give expression to my views upon the work we are engaged in and to explain why we are engaged in it. Under general conditions, or perhaps I might better say, some conditions, this would be easy to accomplish, but from what confronts me I am not so sure that I will be able to convince you, or even myself, upon all the points at issue.

In the first place, it might be well to state that, under the Code of Ethics, the Constitution or the By-laws of the National Dental Associa-



tion, or of any dental organization of which I have knowledge, it is nowhere stated that for a dentist to patent a process or method of procedure in our professional work would be a crime, or even a misdemeanor.

There being no crime committed except by the breaking of some law, and there being no law on the subject except that of the United States Patent Law, the question at once arises, Are we to approach the situation as the plaintiff or as the defendant?

The Constitution of the United States says:

**Legal Restrictions
of Dentists in
Regard to Patents.**

Art. I, Sec. 8. (Congress shall have the power)

"To promote the progress of science and useful arts by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries."

Under the heading of "Science and Useful Arts" I assume there are many present who will acknowledge that dentistry is both a "science" and a "useful art."

If we acknowledge that proposition, then we must accord to Congress the absolute right to legislate in such manner as to grant dental "authors and inventors the exclusive right to their respective writings and discoveries."

From the Constitution of the United States we must now turn to the enactments of law by the Congress under the powers granted in the Constitution.

Sec. 4886 provides:

"Any person who has invented or discovered any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvement thereof . . . may . . . obtain a patent therefor."

It will at once be observed that Congress makes no distinction as to the "person" being a dentist or a layman.

Therefore, so far as the "person" is concerned, the dentist has as much right to patent his discoveries or improvements as has anyone under the law.

There can be no controversy regarding the matter so far as we have gone, I am sure you will all agree, and this far will I agree with you.

We have seen what the Constitution of our country has given Congress power to do, and what under that power the Congress has seen fit to do, but we have yet a power to look to for further guidance, and that is the courts, who are the construers of the laws which Congress enacts, as well as its powers to enact laws under the Constitution and in conformity thereto. In other words, while Congress can enact the law, the courts, and not Congress, construe the meaning of the law once it is enacted.

We have now come to the lighthouse that must guide us through the

channel to the harbor we seek, and upon our ability to navigate correctly the channel depends whether we shall get safely into harbor, or find ourselves upon the rocks and reefs that line its course.

I may or I may not be a good pilot, but I will do my best to carry you safely into harbor, and all I ask of you in return is that you use your own good common sense so that you can judge if I have taken you into the harbor or have landed you high and dry on the beach.

**Attitude of
Dentists Toward
Patents.**

The dental profession, as well as the medical profession, has for some reason shut the door in the face of its inventors, so far as allowing them the financial rewards for their industry and genius to be obtained from the monopoly that goes hand in hand with the government grant of a patent.

The medical profession not only shut the door, but put up the bars by providing in its Code of Ethics that it would be considered unprofessional for a medical practitioner to obtain a patent upon any process or device to be used in the healing art.

The dental profession has shut the door, but left the bars down, so that ingress and egress is open to all who care to come and go without fear of hindrance by law or rule, leaving as an only guard the conscience and the unwritten law of public opinion.

The occurrences which have periodically confronted the profession for the past fifty years in the way of litigation have been brought about by the dental profession's own neglect, and so long as this condition remains unchanged the troubles that arise are but the expected, and we cannot point the finger of scorn to our unruly offspring who have erred, if error it be, merely from lack of paternal restraint and proper supervision.

It will be observed that I am not approaching my subject with club and spur, but rather with a gentle hand and soft-spoken word. It is not from fear of my subject nor from any desire to placate my hearers or provide cushioned seats for those who may not agree with me or my contentions that I do so, but because I cannot find it in my heart to condemn any man or men for attempting to better their condition through taking advantage of the contract our Government has provided with so generous a hand and so powerful an agent as the courts to enforce its terms.

We meet two propositions of fact:

First: The Constitution of the United States and the Congress having provided for the discoveries and inventions of all persons being protected for limited times, are we to set ourselves up as reserving powers only delegated to the courts upon the assumption that our conscience and ideas of the eternal fitness of things relating to our profession makes us more powerful and better judges than the courts?



ITEMS OF INTEREST

Or, Second: Are we to abide by the law of the land, bow our heads to the court's dictates for the time being, and petition Congress, which has the power of modification of the patent laws, to change the present law of patents that relief may be had from the conditions which our professional life lead us to consider unbearable and unjustified, either as it relates to our profession or to the public?

That we must assume one position or the other is obvious, and the only question before us is, which position shall we assume?

Are we law-abiding citizens as a rule, or are we not? So far as my investigation of the subject goes I am rather inclined to think that we are, and so far as the records of the courts of the land show, I am proud to say that the dentist of all artisans is least brought before the bar of the court for either crime or misdemeanors.

As Chairman of the Committee on Patent Legislation of the National Dental Association, and acting for that body, I have assumed that the second proposition is not only proper, but that it is the desire of the great majority of the profession outside as well as inside of that organization.

I have assumed that we are honest, law-abiding and reputable citizens, and that we desire nothing that in all justice does not belong to us of right.

This position does not assume that we must sit complacently by and accept without resistance conditions we feel are unjustified, and that we may not utilize such rights as the law and the courts provide in such contingencies.

If it were conclusive when Congress passes a law that it must be obeyed until repealed, then resistance would be nothing less than revolution, but, happily for all concerned, this is not the case.

Congress has provided courts not only to construe the statutes passed by it as to its meaning, but also to decide upon the justice of the law as it applies to the case at the bar.

So with the patent laws, Congress has provided the law, given the courts jurisdiction and provided rules and regulations under which the laws shall be applied, upheld or nullified.

Therefore we, as a profession or as individuals, have as perfect a right to take advantage of these rules and regulations provided by Congress to put into execution its laws as have any party or parties who may desire to see that their rights are upheld under them. The one is as much a right as the other under the law.

If my hearers concede this proposition to be correct, and I think you will, you must concede it within the rights given, for the individual or the profession as a whole, to resort to the courts to

**Legal Method
of Testing
Patents.**

determine if their rights have not been infringed upon in the granting of a patent.

You must understand that in the granting of a patent by the Patent Office this is done upon what are termed *ex parte* statements of supposed facts; in other words, upon the statement of the discoverer or inventor.

In order that this condition may not work a hardship or injustice to the public at large, the Congress passed laws to enable those who think their rights are interfered with to become a party to the contract, and provided means to have their day in court in opposition to the *ex parte* grant of a patent or other contractual relation provided by law.

Under the law, the grant of the patent is *prima facie* evidence in court as to the validity of the patent until it is declared void by the court.

Therefore it must be resisted through the court by the other parties to the contract, which may be the public, the individual, or the Government, and if it be not resisted by the means provided in the courts, then the *ex parte* statement of the inventor or discoverer is conclusive, and the grant valid in law.

The Court of Equity, having jurisdiction, the maxim of that court obtains.

“He who seeks equity must do equity.”

“A party cannot claim the interposition of the court for relief unless he will do what is equitable should be done by him as a condition precedent to that relief.”

Therefore it is obligatory upon our part to do justice to the inventor or discoverer if we expect justice to be done to us.

“Equity follows the law.”

“This is true as a general maxim. Equity follows the law, except in relation to those matters which give title to equitable relief because the rules of law would operate to sanction fraud or injustice in the particular case.”

To accept as conclusive *ex parte* statements of the inventor would be conclusive to both fraud and injustice, and that is why the equity court is given jurisdiction in patent cases. They are reserved to the federal courts, because the patent laws are federal statutes and extend to all States and Territories under the Government of the United States.

Having set forth our rights as individuals before the law, the law as provided by the Constitution and Congress relating to patents, and the remedy we have for fraud or injustice by *ex parte* grants under the law, I will now take up the remedy for the conditions confronting the dental profession relating to patents upon processes and methods of curing or alleviating diseased conditions, proposed in the past by Dr. R. Ottolengui of New York, and at present being promoted before Congress by the



ITEMS OF INTEREST

National Dental Association through its committee on patent legislation, of which committee I have the honor of being chairman.

The first proposition of moment to be considered is, "Has Congress the right to make or modify the patent laws?"

We have seen that under the constitutional powers I have heretofore quoted, Congress has the right to enact patent laws. Having that right, the courts have construed their right to modify them as follows:

In *McKlurg vs. Kingsland* (I., Howard, p.

Power of Congress 202), the court says:

to Modify the Patent Laws. "The power of Congress to legislate on the subject of patents is plenary by the terms of the Constitution, and as there is no restraint on its exercise, there can be no limitations on their right to modify them at their pleasure, so that they do not take away the rights of property of existing patents."

It is obvious that your committee is not asking of Congress the impossible, by requesting the modification of the patent laws, and that Congress has the right and the power to so modify them if it deems it proper to do so.

It is also plain that even if Congress should see fit to modify the patent laws as we have petitioned them to do, that it will have no effect whatever upon any existing patent already granted, or which has not received the validation of the courts of the United States.

I have been requested by your committee on **The Taggart-Boynont Case.** essays to tell you something of the relation of the litigation pending between Dr. Taggart, of Chicago, and Dr. Boynton, of Washington, in the courts of the District of Columbia, and the Bill H. R. 20591—promoted by my committee before Congress at the present time. The above statement covers that relation in full so far as the bill and its effect, if passed, is concerned. Therefore neither the friends of Dr. Taggart nor of Dr. Boynton have anything to complain about so far as the passage of this bill is concerned; neither will gain nor lose by its passage, but so far as it relates to the dental profession as a whole, it will absolutely prohibit all litigation of the above description ever working embarrassment to the dental or even the medical profession in the future. That is the object of the bill and its promoters, and I sincerely believe and hope that the pending legislation will have the unanimous support of the profession regardless of the present controversy.

What the decision of the courts will be in the case of "Taggart vs. Boynton" depends upon the questions and points of issue that the court will be called upon to decide. If it should go to issue merely upon

the point of "priority in the art," as it did in the Supreme Court of the District of Columbia, there can be but one ending, and that will be in favor of Dr. Taggart on the point of "utility." A defendant using a patented device is barred from raising the point of "utility," which is common sense as well as law, from the fact that the defendant would not use a device unless it had "utility."

On the question of "priority in the art," a patent is *prima facie* evidence of its priority until overcome by evidence strong enough to overcome the presumption of law.

If any gentleman has a desire to know just how much "strong evidence" is required to overcome this presumption in law, let him read the evidence in the "Telephone cases," and his eyes will be opened as to just how strong this "presumption in law" is, and he will not be left with much faith as to the evidence before the court in the Taggart case overcoming this presumption. If I were to offer an opinion in the premises, I would without any qualm of conscience say that Taggart will win the case on those grounds.

As chairman of a committee of the National Dental Association on patent legislation and as a member of the Committee on Low Patent of the

Reissue of Low Patent. year preceding the enlarging of the powers of that committee into that of the present committee, and being the author of the contents of the report of the Low Patent Committee which caused the enlargement of these powers, I may safely assume to know what those powers are, and to be competent to define their limits. Under the Low Patent Committee, my duties, as defined by authority, was to watch the Low Patent bill before Congress and to prevent, if possible, the enactment of legislation granting a reissue of the Low Patent on bridge-work in dentistry. Having become convinced, through conversations with members of the patent committees of Congress and evidence of the lack of any support to the Low bill in Congress or its committees, and in view of the "Taggart vs. Boynton" litigation, I concluded the opportune time had come for renewal of the agitation for a modification of the patent laws of the United States, which, if accomplished, would prevent such litigation in the future.

With that idea in mind, I suggested to the chairman of the Low Patent Committee, when he was ready to report at Cleveland, the contents of that report enlarging the powers of the committee and giving it jurisdiction over patent legislation as a whole. This report was adopted by the Executive Council of the National Dental Association and approved in regular form by the body, as follows:



Report of Low Patent Committee.

"The Committee on Low Patent beg leave to make the following brief report:

"There has been no change in the status of the matter since the last annual meeting. The bill is still before the Patent Committee of the Senate and your committee has reliable information that it will not receive favorable action by that committee. Your committee suggests that a patent committee of three be appointed to take charge of all patent legislation, and that they be instructed to memorialize Congress to enact such legislation as will not permit the granting of process patents on any method which has to do with the healing arts of medicine and dentistry, except such as can be manufactured and placed on the market for sale.

C. N. JOHNSON,
EMORY A. BRYANT,
CHARLES R. E. KOCH,
CHARLES W. RODGERS, Chairman."

When it came to the meeting of the Executive Council in Washington last fall to appoint the committees of this year, it required some little effort upon my part to awaken the members of the Council to the contents and scope of this report, and to come to an agreement as to the committee membership. Knowing by experience what this committee must confront, it being a very serious matter to contemplate a change in the patent system of the country, and a subject which would involve a discussion of patent law in all its phases, as well as requiring a knowledge thereof, I assumed or presumed, as you may choose to put it, that if there was to be any genuine effort to carry out the policy laid down in the report referred to of the Low Patent Committee, it was desirable that your present speaker be placed at the head of that committee as chairman. This involved the displacement of the then chairman, and the passing by of the other members of the committee and making the tail-end member (myself) chairman.

Of course I recognize that it was egotistical upon my part to suggest such a change, presumptuous to an extreme, and a few other things that will perhaps be brought to my attention from time to time by parties who are interested more in who shall be honored by the committee appointments than they are in what the committee may accomplish, or at least try to accomplish. My answer to such a question my motive is, my record in the Army Dental Corps legislation as well as others I might mention if called upon.

While this is somewhat personal, and may look like anticipation of future events, I desire to say that my motive is merely to call to your attention, that as chairman of the committee on patent legislation of the National Dental Association, the present status was brought about by my own ideas upon the subject, and that when you analyze the situation confronted by myself, you will find the reason why I state at the beginning of my paper, "Are we to approach the situation as plaintiff or as the defendant"? I "assumed" powers of suggesting the report at Cleveland for a new committee. I "assumed" at Washington, to be made chairman. I "assumed" that the dental profession, by its past actions in regard to litigation on "Process and Method Patents" desired steps taken to prevent in the future such litigation.

I "assumed" that the dental profession is honest, and therefore, that it desires to accomplish this result by honest means.

I "assumed" that the means to be promoted to be honest, was to amend the patent laws if possible.

As God gives me light, as my experience has taught me, as my education has prepared me, as the dictates of my conscience has demanded of me, my course has been laid, and the motives which have made me act in the manner I have acted, is for the progression and betterment of my profession's welfare.

I say to the dental profession at large, and to the members of the National Dental Association, if what I have done meets with your approval, then stand by me and support me in my efforts, and if it does not, my resignation as chairman is at your disposal, and at the coming meeting in Washington, I can be displaced, my propositions overruled and someone more in accord with such policy can be placed in my stead.

Until that meeting is held, I will be chairman and I will act with all the power that position grants me, unless I see that the profession itself is displeased, and not merely a disgruntled part of the profession.

That precedent has been established firmly in the N. D. A. committees for many years, and I shall follow it.

(At this point Dr. Bryant proceeded to discuss the exceedingly abstruse question, "What is a Process Patent," and quoted entire a remarkably fine résumé of the opinions of courts and legal authorities, which he presented priorily in an argument before the Patent Committees of Congress, for which, unfortunately, we cannot afford space. Dr. Bryant concluded as follows):

The idea that we are neither "flesh nor foul" should no longer prevail. Either it is professional to patent our dental inventions and discoveries or it is not.

The profession should take its stand upon one leg or the other, and



it is neither right nor is it necessary to condemn any man for doing that which you have no stated law to forbid. Neither do I consider it right, under the present circumstances, and until the patent law is modified to meet our requirements, to take from any man, whoever he may be, his inventions and discoveries without remunerating him in a proper manner therefor.

Let us be honest with ourselves, that we may claim honesty from others.

Maxillary Sinusitis.

By EUGENE H. HINMAN, M.D., Albany, N. Y.

*Read before the Union Meeting of the Third and Fourth District Dental Societies,
at Troy, N. Y., October 22, 1912.*

The relation between diseases of the nose and throat and the various problems presenting to the dental surgeon is becoming more and more close. Since our two professional departments have been sharing these problems, greater progress has become possible to each. Recent years have seen great advances in both specialties and particularly in a more thorough understanding of the interrelation between nasal abnormalities and dental deformities, the latter being now so thoroughly cared for by the orthodontist.

Your president has asked me to present some topic to you that would be of interest from its relation to dentistry, and I have thought that a short consideration of antral disease might be of benefit. Its importance is not to be denied, since much clinical evidence has accumulated to demonstrate the important rôle which accessory sinus inflammations play in the etiology of disease. The antrum, or maxillary sinus, is of course frequently infected by diseased teeth and so presents itself to the dentist.

Its anatomical relations you all doubtless recall too well for me to more than touch upon them in passing. Situated in the superior maxilla in close relation to the teeth below, the nasal cavity on the inner side and the orbit above, it becomes at once a cavity with a very considerable exposure, and is very commonly the seat of pathological processes causing great discomfort, and at times is a serious menace to the health of the patient, especially in cases of chronicity.

**Origin of
Antral
Infections.**

Disease of the antrum may be due to infection from the nasal cavity or from diseased teeth. Late authorities state that about ten per cent is of dental origin and ninety per cent find their origin in the nasal cavity or its other accessory sinuses.

The normal ostium of the antrum is situated beneath the anterior portion of the middle turbinated body of the nose, high above the antral floor, and opening into a small sulcus, the infundibulum, in common with the openings of the anterior ethmoid cells and the frontal sinus. The height of this opening above the floor of the antrum might seem to render normal drainage from the sinus difficult, but as a matter of fact, in health, the mucosa of this sinus secretes very little and that is quite readily carried to the ostium by the cilia of the epithelial lining and thrown into the nasal cavity. These same cilia are also an important factor in disposing of bacterial invaders so long as inflammation within the cavity does not lower the vitality of these cells and impair their ciliary function. The close relation of the ostium to the openings of the other sinuses renders it very easy for diseases of the latter to involve the antrum. In fact it becomes a sort of reservoir for purulent secretions from above.

Extension of disease from the teeth is generally through the roots of a second bicuspid or one of the molars. Although the roots may be in very close relation to the antral floor, involvement of the cavity of the antrum is unusual, except in cases where the roots project above the floor. The bone of the floor is very hard and resistant, but in the case of teeth whose roots project into the antral cavity it is very thin, and in some cases entirely lacking, a layer of mucous membrane alone covering the roots. In such cases necrosis easily involves the antrum. The infection is not alone by contiguity of tissue, but may take place through the lymphatics and blood vessels. Indeed, a caries of the crown has been known to extend, through the lymphatics of the alveolus, to the antrum.

A sinusitis may be either catarrhal or suppurative. We doubtless frequently have a non-suppurative sinusitis here just as we do in the frontal. It is apt to occur during an acute rhinitis or during any inflammatory process which causes a marked swelling of the nasal tissues.

This is generally due to a negative air pressure. As a result of the nasal swelling the antral ostium is closed and there follows a passive congestion and an outpouring of serum into the cavity. If this does not become infected it is absorbed. If the closure is prolonged a connective-tissue proliferation may result, or the mucosa may become greatly thickened in a polypoid process. If this serous exudate becomes infected it very quickly becomes purulent. The bony walls being so thinly covered are not infrequently attacked by necrosis, and where this does occur multiple polypi eventually fill the cavity.

**Symptoms
of Sinusitis.**

The symptoms of maxillary sinusitis vary greatly according to the character of the invasion. If we have to deal with one of the simple acute catarrhal variety there is generally an associated nasal inflammation, acute in character, which obstructs nasal respiration. The pain may vary from a feeling of fullness over the cheek to actual sharp pain. The pain may be referred most markedly to the teeth or to the orbit. There is no pus in the nose and transillumination will probably show a clear sinus. A thorough shrinking of the nasal mucosa will probably at once not only relieve the sinus distress but clear the diagnosis.

If the condition be a purulent one, there will generally be a history of pus being discharged from the nose or the evidence of dental disease involving an upper bicuspid or molar. In acute purulent cases there is generally a moderate amount of malaise with a temperature of one or two degrees. The patient complains of a good deal of pain in the region of the antrum, it is painful on pressure, the nose is occluded and pus is found in the nasal cavity.

**Diagnosis
of Sinusitis.**

To determine the origin of the pus in the nose is sometimes a very difficult task. After contracting the nasal tissues with a solution of cocaine or adrenalin, or as is my custom with a mixture of both, which gives a maximum of contraction and enough anesthesia to enable one to probe about without causing pain, the nose is carefully freed of pus. If pus quickly reappears it may come from either the ethmoids, the frontal sinus or the antrum; but if it does not appear the head is held well over to the opposite side for a few minutes. If pus now appears in the middle meatus it probably comes from the antrum. This is sufficient to warrant an exploratory lavage of that cavity. The nose having been cleansed of pus, a curved irrigating trocar is carried under the inferior turbinate to a point about one inch back of its front end, and at its attachment to the naso-antral wall. At this point the wall is extremely thin and the trocar may be easily passed into the sinus. If clear saline solution is now injected through the canula, any purulent secretions will be washed out through the natural ostium and show in the washings. Even this may not give us an absolute diagnosis, for if the antrum happens to be filled with polyps there may be very little pus to wash out.

Transillumination of a suspected antrum, while not an absolute test alone is strongly corroborative. If there is a great thickening of the mucosa, if the antrum is filled with polyps or pus, when the small electric lamp is placed in the mouth and the lips closed, the side involved will be

dark, while if the antrum is comparatively clear of obstruction the light rays pass through it easily and show a bright crescent beneath the eye, and the pupil of that eye will show a dull red glow. This, of course, must be done in a well-darkened room.

Probably our most reliable diagnostic agent to-day is the radiograph. Sinus plates are among the most difficult of radiograph work, but they give us most complete report as to the condition of these cavities. Not only are they of great value in diagnosis but they furnish at the same time exact data for operation, defining the extent of the cavity and showing frequently accessory cavities within that under observation, which might otherwise escape our attention.

Treatment of Antral Disease. The treatment of antral disease is strictly surgical. Some of you gentlemen will probably disagree with me, but the more I see of these cases the more I am convinced that, except the diagnosis, it is not a dental problem. The treatment belongs entirely in the domain of the rhinologist, and from what I can gather from my dental friends, I am sure there is a growing belief in that creed among your profession.

If a case of cervical adenitis, with large infected or broken-down glands comes to me, I should not undertake work that surely belongs to a general surgeon and remove the diseased glands. I would simply enucleate the tonsils that have been the focus of infestation for the glands, and allow the general surgeon to have the treatment of the adenitis. In like manner I believe the dentist should be able to make a probable diagnosis, and should, if necessary, remove the offending teeth, but I do not believe that he is equipped to undertake the surgery to cure that antrum. The small hole drilled through a tooth socket is too small for drainage, too small for sufficient irrigation or ventilation, and will, in many cases, produce a sinus that it is difficult to close after the antrum has healed.

Operations for Sinusitis. There are several operations advised by various rhinologists for the cure of empyema of the antrum, all of which have their advocates. There is a growing tendency toward conservatism here, as elsewhere in surgery, and the foremost operators now are endeavoring to cure their cases by intranasal operation. It is true that many cases get well if we but give the cavity good drainage and lots of air. To do this it is necessary to remove the anterior portion of the lower turbinate. The naso-antral wall is then broken through and with curved punch forceps, or other suitable instrument, a portion of this wall is removed so that a large opening is obtained. The cavity can then be inspected and

treated. This often suffices for a cure. If, however, the disease has progressed so far that the bony walls are involved, or the mucosa has so degenerated that a polypoid condition is present, the walls should be curetted and the cavity packed for several days, after which daily irrigation with some antiseptic is necessary to promote healing. It is important to make this opening close to the antral floor and large enough to prevent subsequent closure. Healing usually takes place in from three to five weeks.

Of the more radical operations which become necessary in the chronic empyemas there are several. I prefer the so-called Kundt operation. The upper lip is retracted, an incision is made from the malar eminence to the lateral incisor tooth and the muco-periostium is elevated over the whole anterior surface of the antrum. With chisel and bone forceps we then remove the entire anterior wall which permits us to thoroughly curette the antrum, removing all membrane or necrotic bone. The inferior turbinate is removed—preferably prior to operation on the sinus—and the naso-antral wall is cut down to the level of the nasal floor, being careful to avoid injuring the lachrymal canal in the anterior part. After thoroughly cleansing the antrum it is packed with gauze, and the end of the gauze carried out through the nose. The alveolar incision is now sutured so as to avoid a subsequent fistula, and all dressings are afterward done through the nose. The packing is removed after three days and is not returned; but the cavity is gently irrigated daily, and when there is no further discharge irrigation is stopped. It is surprising how quickly granulations will fill in the greater part of the antral cavity and give us a smooth healthy surface.

This I think you will agree with me is not dentistry, but most particular and rather difficult surgery, and I am sure that if less heroic measures would cure the cases we would only be too glad to use them; but they do not, and I do want to urge upon you the necessity of letting us see them before they go to the chronicity that is destined to demand such radical operating. Let us open up that naso-antral wall and afford drainage and ventilation while it can be done under local anesthesia, and with as little surgery as possible.

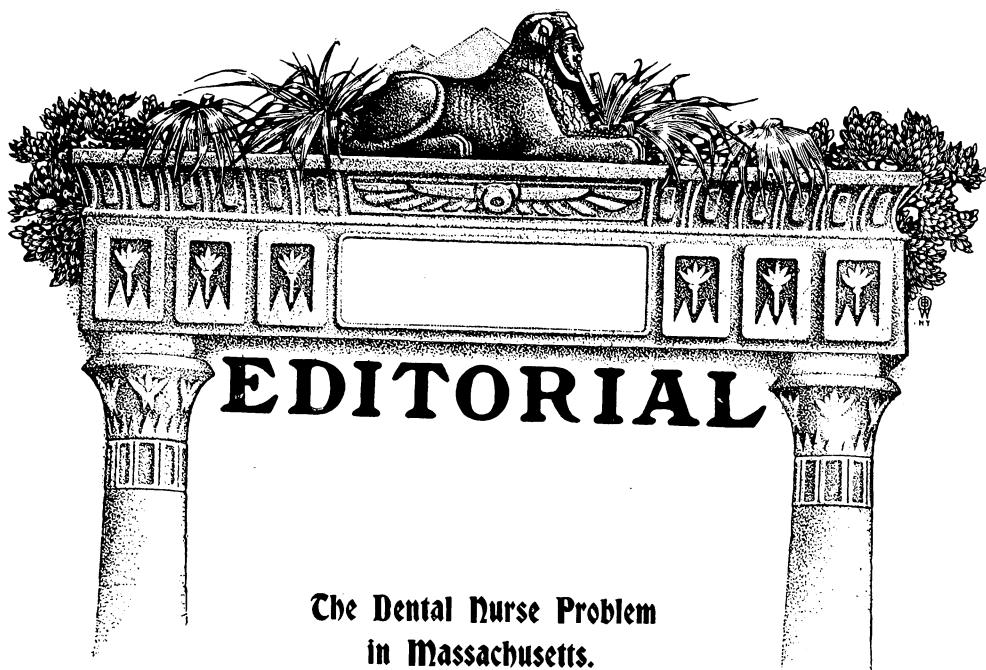
I have not spoken at length of the complications of antral disease, for, if I did so, I would have to lengthen my paper beyond what I know is the limit of time I should occupy. I would just mention, therefore, before leaving the subject, a few of the most important.

There is, of course, particularly in the chronic **Complications.** cases, the general debility induced by the continual pus absorption. It is not at all rare for us to see an infection of the orbit with a resulting orbital cellulitis or even orbital

abscess. The infraorbital nerve, which passes across the roof of the antrum, may not be enclosed in an entire canal of bone, but may be protected only by a membrane and an infraorbital neuritis may be induced. Indeed, we must bear this in mind while operating for we may easily injure the nerve. In cases of nasal origin it is perfectly possible to have a dental caries develop as a result. I have in mind two cases of caries of the alveolus that resulted from chronic antral empyema.

These complications will be treated as they may present. The debility must be met with appropriate tonics. The orbital infection will demand free opening and drainage. If the alveolus becomes diseased, the diseased bone should be removed and the case treated as one would an osteitis anywhere by frequent cleansing, packing cavities lightly to maintain drainage and healing by granulations.





The Dental Nurse Problem in Massachusetts.

In this issue we have the pleasure of presenting a temperate, logical and practically unanswerable plea for the trained dental nurse, in the excellent paper read by Dr. Fones before the Allied Societies of Boston. We publish also a communication from Miss Dympie Johnson, herself a dental nurse with fifteen years' experience, in which she argues for proper education and registration of dental nurses. In the Department of Dental Laws and Licenses will be found a copy of the Dental Nurse act now before the Legislature of the State of Massachusetts. Finally, there is an adverse report which has been filed with Governor Foss by the Massachusetts Board of Dental Examiners. An actual copy of this report is not at hand, but we have received a number of newspapers which quote from the board's report, and as these quotations are identical in language, we may presume that they correctly represent the attitude of the board. The extracts which will here be used as a basis of comment are taken from the *Boston Globe*, issue of January 4th, and if inadvertently, injustice is done to the board, by assuming these quotations to be correct, amend will be promptly made by according any member of the board the use of our pages for reply.



It is a strange fact that there never has been any scheme of progress proposed that has not been met by antagonism. On the wrong as well as the right side of every question we can always find men who are honest in their purposes, well informed in the subject matter, of undoubtedly mental attainments, and possessing keen judgment. Even in the Supreme Court of the United States, where the layman would not unnaturally suppose that the judges would be so well versed in the doctrines of law, that after debate they would always hand down decisions in which the entire bench would concur, exactly the opposite usually maintains, and it is rare, indeed, that the majority decision is not accompanied by a dissenting opinion signed by members of the court as learned and as honest and as competent as those that establish the ruling by force of numbers.

It is not strange, therefore, to find gentlemen as distinguished in the dental profession as are the men on the Massachusetts Board of Dental Examiners, disagreeing with a proposition advocated by other Massachusetts dentists of equal eminence, and supported by thoughtful members of the profession in other States.

In the presence of such diametric opinions about a measure of vast import to the health of the community, the discussion should proceed in an impersonal manner, each side according to the other complete integrity of purpose. Those opposing the dental nurse should admit that the advocates of the dental nurse are as jealous of preserving the honorable status of dentistry as are they themselves. Conversely, those that argue for the dental nurse should concede that the opponents are as keen as themselves to safeguard the interests of the community. Each side should receive criticism of its position, not with impatience and rancor, but with an unbiased logical attitude of mind, dissecting the arguments in search of the strong points as well as the weak. In this manner only can we arrive at the truth, and determine whether (a) the dental nurse will be a valuable aid to the honorable practice of dentistry, increasing the efficiency of the profession in serving the community; or whether (b) the Dental Nurse act would bring into existence a tribe of harpies, who would aid the unscrupulous and the illegal dentists in mulcting the public. The problem is certainly one of the most important that could be brought before any legislature.



ITEMS OF INTEREST

The Board's Opposition.

The Massachusetts State Board has filed its report antagonizing the Dental Nurse act. This report is therefore now a public document. It is not the opinion of individuals, but the expressed view of one part of the State's machinery. As such, the arguments are open to discussion. The bill in question, the board says, "is simply an attempt to create a new species of dentist, to be known as the dental nurse."

An argument of this sort is not exactly fair, and is unworthy of the dignity of the board. Whatever the effect of the Dental Nurse act might be, the board knows that the introduction of this measure is not "an attempt to create a new kind of dentist." If so, the purposes of those that have introduced this measure would be beneath contempt. Let it be added that a dental nurse, properly described, properly educated, and properly legalized, would no more be a "kind of dentist" than is the "medical nurse" a kind of physician.

Next the report is thus quoted:

"Under the provisions of this bill the nurse would have the right to perform operations upon the human teeth and gums that require the highest skill of the trained and registered dentist. She would be allowed the use of every instrument in the dentist's office; she might treat the most serious and painful diseases that the teeth and adjacent parts are subjected to.

"In fact, everything of a medical, surgical and scientific nature in dentistry would be open to her under this bill except alone the purely mechanical operations—the filling of teeth, making plates, setting crowns, bridges, etc., and even those might be included under the clause: 'Assisting a registered dentist during the performance of his dental operations' found in the eighth section of the bill."

When including such a statement in its report, the board must have had an incorrect copy of the measure before it. None of these powers are granted to the dental nurse in the copy of the act submitted to us, and published in this issue. She is not even granted the privilege of "assisting a registered dentist during the performance of his dental operations," work by the way which is done by thousands of *unregistered* girls in dental offices all over this country, thus far with no dire result either to the dignity of the profession or to the common weal. The Dental Nurse act, in deference to criticism from all quarters, has been so

emasculated from its original form that the duties of the nurse are described in the single sentence (Section 2 of the act), "The dental nurse shall be licensed to perform the service of cleansing teeth." This argument of the board, therefore, has absolutely no relation to the act as presented, especially as there is no Section 8.

The report if correctly quoted further says:

Use of Dental Engine.

"To effectively clean the teeth it is necessary at times to use the dental engine; the dental nurse, therefore, would be privileged to use the same.

"In the opinion of the board, none but those trained and educated to the present standard of the Massachusetts requirements should be permitted to handle in the human mouth this surgical instrument."

This, at least, relates to the service which the nurse would perform. It is true that the majority of dentists use the dental engine in cleansing teeth. But it is also true that the advocates of prophylaxis in the mouth declare that the best results are obtained without the engine. It is also true that such dental nurses as have been competently trained have been taught to use the engine very little, if at all. But if the dental nurse is *trained to be an expert in her sphere of work, why should she not be permitted to use the engine* or any other instrument needed in her work? If competent, the use of instruments is a secondary matter. If not competent, she should not be licensed, and her competence or non-competence would be determined by examination. It is quite true that in incompetent hands the dental engine might injure a patient, but the hypodermic syringe is ten times more dangerous, yet medical nurses throughout all the world have the right to use this instrument, which may carry poisons, not only from within the barrel but what is more often the case, on the outer surface of the needle. Yet neither the medical profession nor the public has suffered from granting this privilege to these women.

The Dental Nurse in Private Practice and Public Clinics.

Next we find a statement by the board which brings up for discussion the most important argument which they have presented. The report is quoted as follows:

"The advocates of this proposed legislation have not one word to say in defense of this 'dental nurse' in private practice, except as a means of increasing the office income, but urge by way of



excuse, as it were, the need for the nurse in dispensary, infirmary and hospital work and among the poor children in our public schools, as if the proper practice of dentistry among the unfortunate and the poor did not require the same skill and efficiency as among the rich, or because, perhaps, the unfortunate and the poor would be satisfied with inferior and limited service.

"There is no charity in this, and if the city or State is to provide assistance of this kind to the poor as suggested, the city or State cannot afford to be a party to the scheme. The rich, though sometimes imposed upon, may choose their own dentists; the poor cannot, and all are entitled to the equal protection of the law."

The board says that the advocates of the dental nurse have no word to say in defense of the dental nurse in private practice. It were time then that a word were said. The language "as if the proper practice of dentistry among the unfortunate and the poor did not require the same skill and efficiency," etc., is an argument which alone proves that the board does not in the slightest degree comprehend either the work that the dental nurse is designed for, nor the work that awaits her, nor the great public need that exists for her establishment and for her work.

Let us, then, endeavor to inform the Massachusetts Board, the dental profession as a whole, members of Boards of Education and Boards of Health, and State legislatures throughout the land, why the dental nurse should be brought into legal existence and put to work.

All over the civilized world the doctrine that "an ounce of prevention is worth a pound of cure" is being applied to the problem of safeguarding the public health. Perhaps the first important step actually put in practice was vaccination for protecting the individual from smallpox. As with all other advances in science, this was met with strenuous opposition. Men of great medical eminence and recognized ability publishing lengthy diatribes against "introducing poisons into the system." What is more, many of the prophesied evils occurred. The individual vaccinated was not always protected; some who were well prior to vaccination never were well thereafter; sometimes other diseases almost or quite as bad as smallpox ensued. Yet, despite these facts, the theory was correct. Methods were perfected, and vaccination was eventually proven to be a real protection. It is not our purpose to follow the his-

tory of this great prophylactic measure, but merely to point out two or three significant facts.

Even long after vaccination was made safe and was known to be a genuine protection, the vaccination of individuals was left to the option of the individual. But in time it came to be seen that if the disease were to be stamped out, something more drastic must be done. And what was done? State after State passed laws making vaccination against smallpox compulsory. This was done because it was seen to be against the interests of the community to permit a man to leave himself open to infection. Now, where was this compulsory vaccination put into operation? In the public schools. By causing all children as they arrived at the school age to be vaccinated, it was seen that the time would come when the entire community would have been vaccinated; when the persons who were not immune would have died, and that thus, in the end, the community itself as a whole would be practically immune to smallpox. Could this immunity be compulsorily spread throughout the world, the disease itself would cease to exist, for want of the pabulum for propagation. As world-wide immunity, of course, could not be hoped for, communities soon further safeguarded themselves by quarantines. These means have been so effective, and all within half a century, that smallpox is a rarity.

Now let us apply this great lesson to our own problem. The campaign of mouth hygiene, scarcely more than ten years old, has spread by almost decimal progression. Each year the interest in it

Mouth Hygiene. has increased tenfold. Boards of Health lend attentive ears to our arguments and School Boards, the country over, are assenting to our proposition that the public school children should be cared for. We have rushed our lecturers around the country telling of the advantages that will accrue from the clean mouth; we have tabulated endless statistics of the dangers of the unclean mouth, and infections possible therefrom both to the individual and to the child who sits next to and breathes the same air with him. Thus the dental profession, apparently without seeming to recognize it is bringing about a condition that it is making no preparation to meet.

Let us take a concrete example. We have been saying to the



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municipalities: "You should care for the mouths and teeth of the children in the public schools. If you do, and do the work thoroughly, you will so improve the bodily and mental conditions of the children, that the cost could actually be defrayed out of the sums now spent in re-educating children who fail of promotion!" And when we say this we tell the truth.

Suppose that the municipality of Boston to-morrow should send the dental profession this message: "We accept your proposition. We will establish a dental clinic in connection with every public school in the city. We will pay the dentists and will expect them to work all day of every day, for these children. The city will provide the money. You provide the dentists?"

What would the dental profession in Boston reply?

Here is a fact that defies refutation. If every dentist in the city of Boston would give his office and his time entirely to the treatment of the public school children in Boston for one year, at the end of that time this tremendous working force of skilled practitioners *would not have finished filling the cavities that exist at this moment in the teeth of the children of the public schools, and if in addition to repair work they would have succeeded in cleansing each child's teeth once in that entire year, it would have been a marvelous accomplishment.*

Then, if at the end of the year a thorough dental inspection were made of the mouths of the school children two things would be discovered: First, that *the mouth of every child would be in need of cleaning*; second, that all the children in the infant and Kindergarten classes, admitted during the year, would have received no dental attention and therefore that a new crop of caries was well under way; and finally, that fifty per cent. of the children treated would show evidences of new caries, due to the fact that cleansing a child's teeth once per year is not a prophylactic measure.

The problem is so vast that there almost seems to be no solution. Indeed, there is no solution by the dental profession unaided. Perhaps caries never can be stamped out even to the extent that smallpox has been controlled. But this much is certain: it is possible to greatly mitigate the evils of the unclean mouth, and *these evils are not confined to caries of the teeth, but extend to the system at large. In fact, the un-*

clean mouth is the breeding place, if not the birthplace, of half the ills from which the body suffers.

**The Solution of
the Problem.**

Of course, it cannot be hoped that this great problem will or can be solved quickly. But with the lessons which we could learn from the effects of vaccination the solution of the problem is plain enough. It lies in these few words: **COMPULSORY CLEANING OF THE MOUTH AND TEETH IN THE PUBLIC SCHOOLS.**

When the municipalities become thoroughly aroused, this will surely come. Attendance at school is now compulsory. Vaccination is compulsory. In like manner the cleansing of the child's mouth will be made compulsory. Every public school will have a dental clinic room in the building. Dental inspections will be made daily, so divided that every mouth will be examined at least once in two months. These mouths will be marked clean, or unclean, and if cleaning is ordered it must be done, either by the patient's private dentist or in the public clinic. But *the unclean mouth, once recognized as a menace to public health, will not be tolerated in a school room, as a source of contamination to those children that are clean.* In addition, teeth that are carious will be ordered to be filled. If such laws were put in force in Massachusetts to-morrow, four times the present number of dentists in the State could not cope with the operations of treatment and repair, and likewise attend to the prophylactic work. Nor will there ever be a sufficient supply of graduated dentists to safeguard the whole community against the dangers of the unclean mouth. This because of the fact that the graduate dentist would not feel remunerated by the salaries that could be afforded to these prophylactic assistants, either in private offices or in public or school clinics. Moreover, dental graduates not only would not be willing to take the course of study needed to acquire a diploma and then restrict his work to the cleansing of teeth, but, on the other hand, such a course of study would not be needed, if that were to be his life's work.

It is conceded by some of the opponents of the dental nurse that she might be useful in dental clinics, but they claim that she should not be permitted in private offices. The board also says that no word has been said in defense of the dental nurse in the private office. That word will be said now.

If municipalities make the clean mouth compulsory, as all municipalities will, at some future time, then the question of enforcing this law and the cost thereof must arise. The writer has carefully figured out that it would cost the City of New York \$200,000 per annum to cleanse the teeth of the children in the lowest grade, once every two months. The actual figures are as follows: It would require 32 clinics, each caring for 2,000 children. Each clinic would have a graduate dentist in charge, at a salary of \$1,000, making \$32,000. Each clinic would need ten dental nurses at \$10 per week each, a total of 320 nurses at \$500 per year each, or \$162,000; a gross total of \$194,000 and allowing \$6,000 for expenses, the total would be \$200,000. Of course, these figures are not accurate. The salaries of the dentists are placed very low, as are also the expenses. On the other hand, the nurses might be obtained for less money, if the school clinics were made training schools. However, the figures will serve as a basis of argument. In this manner the municipality would be caring for 65,000 children. In New York there are over 700,000 school children. Consequently, it is manifest that the municipality could not afford to establish and maintain a staff of nurses large enough to cleanse all the teeth of all the children five or six times a year. *Cleansing less often is not prophylaxis.*

Certainly, there is no reason why the State should assume the burden of cleansing the teeth of the children whose parents could afford to pay. Consequently, when the day arrives when the clean mouth will become compulsory, as a safeguard to public health, then the children of the rich must be provided for, as well as the children of the poor. The school clinic should care for those that cannot pay, but the others would need attention in the private office.

Of course there will be some who will eagerly accept this argument and exclaim: "Time enough for the dental nurse when the clean mouth is made compulsory." But such contention is begging the question. We sometimes need only to look a little way behind us, and a little distance around us, to be able certainly to get a glimpse of the future. It is only a few years since the first municipally-supported dental clinic was established in this country. How many have we now? They are springing into existence with such rapidity that it is remarkable

**The Immediate
Need.**

that communities have so readily accepted our advice. What has the chief argument been? A plea for the clean mouth, and a statement of the dangers of the unclean mouth. These municipal clinics have been established in the belief that the dangers of the unclean mouth would be mitigated. Has this promise, held out by us, been fulfilled? It certainly has not, and within a brief period those that hold the purse-strings will discover this fact. Then what? Either the collapse of the entire scheme, or the conduct of them with the aid of the dental nurse.

The experience in all dental clinics thus far established has been exactly what it is in the private office. The demand for repair work is so great that there is no time for prophylaxis. One child with toothache will always demand more prompt attention than ten children with unclean mouths. Yet, from the community standpoint, that toothache is the minor evil.

Just as soon as municipal officers discover that the cleansing of teeth cannot be accomplished in its clinics, and that the money expended goes for repair work, while in no sense lessening or preventing the disease itself, or the dangers of the unclean mouth, just so soon will training schools for dental nurses be established, and the nurses set to work, regardless of what the attitude of the dental profession may be at that time.

Coincidentally with this training of dental nurses for public school clinic work, and years before we have a law making the clean mouth compulsory, there will be an awakening of the public. The argument will be exactly the reverse of that offered by the Massachusetts board. The parents of the rich children will ask: "Why is it that we cannot get the same service for our children in private offices as the State provides in its free clinics for the children of the poor? Why this discrimination?"

It can be abundantly proven that the dental profession, as a profession, never has done this work; that it is not doing it now; and, consequently, it is a safe conclusion that it never will.

It is an indubitable fact that real prophylaxis is not done in the offices of one-half of one per cent. of the dentists of this country. *Moreover, in those offices where it is done, it is done by trained dental nurses.*

The object of those that advocate this bill, then, is simply of this character:



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First, to extend to the community at large a service which at present is offered by less than one-half of one per cent. of the dental profession.

Second, in extending this service, at the hands of the dental nurse, to safeguard the public by regulating the qualifications that shall entitle her to do this work.

Third, by legalizing and regulating the qualification of the dental nurse, to inspire the foundation of proper training schools for dental nurses, thus removing the training from the hands of innumerable individual dentists, and in this manner increasing her efficiency.

Possibility of Nurses Practising Dentistry.

Finally, the advocate of the dental nurse has a few words to say in regard to the argument that the creation of dental nurses will foster illegal practices.

It certainly is a woful commentary upon our law-makers, and our prosecuting attorneys, if it be true that the community at large must be denied a great public service not now adequately administered by the dental profession, because by legalizing a staff of women competent and willing to do this work, some of these women could be lured into illegal ways. It were quite as good an argument to say that we should not graduate and license dentists, because some such licentiates hire themselves into the employ of illegal dentists who manage illegal practices, to the detriment of the public good. It is not the essence of the law in either case that is wrong. It is merely the unfortunate weakness of human kind that the narrow way of righteousness should ever seem unattractive. That we have illegal practitioners, and that we have legal men working in such offices, is no reflection either upon dentistry or law, but it is an evidence either of the ineffectiveness of the law or the lack of its enforcement.

But the advocate of the dental nurse sees so much advantage to the dental profession, to the dental clinics, to the school children and to the community at large, by the advent of the dental nurse, that he favors the act, even though a small percentage of these women should go wrong. The illegal practitioner has ever been with us, and seemingly always will be. Perhaps the dental nurse may serve a good purpose even in his office. That she would or could do any great harm is a gross reflection upon the law officers of the great State of Massachusetts.

IN MEMORIAM

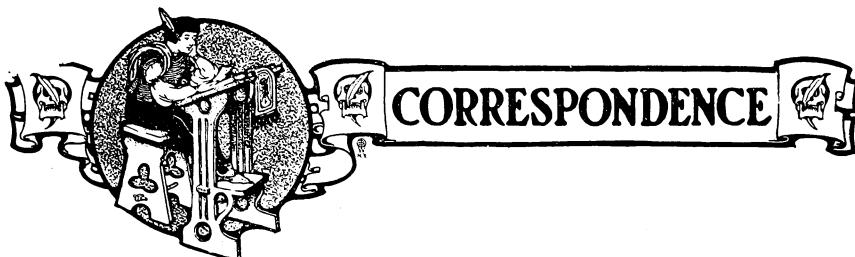
Dr. Wilbur F. Litch.

As we go to press we learn with sincere regret of the death of Dr. Wilbur F. Litch, the distinguished editor of the *Dental Brief*. On December 16, 1911, scarcely more than a year ago, a testimonial banquet was tendered Dr. Litch by the Philadelphia Dental Club and the Stomato-logical Club, the occasion being his retirement after fifty years in practice. It was at this banquet that the profession received the first news of the illness of Dr. Safford G. Perry. In the February, 1911, number of the *Dental Brief*, which gives a record of the banquet to Dr. Litch, we find also a portrait and obituary of Dr. Perry, and now, just a year later, Dr. Litch has joined his old-time friend in the realm beyond. Such are the uncertainties of life.

Dr. Litch was born in 1840, and rapidly attained success and finally eminence. Dr. Litch was for many years a professor in the Pennsylvania College of Dental Surgery. He was the editor of the "American System of Dentistry," published in 1886, the first compiled work of dental writers introduced to the dental profession. To this volume he contributed a chapter on Anæsthesia and Anæsthetics; on Crown and Bridgework, and Metallic Faces for Carious Crowns. Dr. Litch assumed the editorship of the *Dental Brief* in 1889, and has ever conducted his chair with the dignity and keen judgment born of his long association with college life and the leaders and literary men of his profession.

It is with sadness that we record the death of this brilliant man, but it is a pleasant thought to recall that his life and life-work have added much in the progress of the profession to which he devoted himself.





National Dental Association Relief Fund.

Open Letter to the Profession.

DEAR DOCTOR:

Are you acquainted with the effort of the National Dental Association to establish a fund for the relief of its aged and unfortunate members?

Are you in full sympathy with that movement?

If familiar with the scheme thus far, you are aware that the first step was the endeavor during the present year to carry out the plan endorsed by the National Dental Association at Cleveland in 1911. That plan was to ask each State society to increase its annual dues one dollar per member, and set aside the sum thus obtained for the relief fund.

The committee appointed at Cleveland endeavored to get the question before all the State societies at their last annual meetings, but coming at the same time that we were asking them to increase their dues for the purpose of entering the National Dental Association under the reorganization, we met with much opposition. The question was not put to a vote in a number of cases because it was feared we would hinder the reorganization movement. We were received with words of encouragement everywhere, but thus far we have only two States committed to our plan; namely, Tennessee and Colorado. Several of the other States were almost persuaded, and we hope they will vote the measure at their next meetings; therefore, we shall keep up our efforts to carry out the original plan.

We have been assured that this plan will not carry in some States for various and sundry reasons, and many opposed to it have asked to be allowed to make voluntary annual contributions instead.

Some few noble spirits have already set the example by sending on to the committee their first assessment. This encourages us to come to you and ask if you will join these generous few, and agree to give annually a small sum to the relief fund. This is not to be "something



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thrown away, never to be heard of again," but it is going to create a fund to insure our members against want in sickness and old age. You may yourself become a beneficiary, or may live to see it help some dear professional friend in time of distress.

Will you, then, send us your name and the sum you are willing to contribute, or will you not save time and correspondence by enclosing your check at once for the first annual payment?

Make your check payable to H. B. McFadden, of Philadelphia, treasurer of the National Dental Association. You may rest assured the distribution of the relief fund will be in the hands of those who will thoroughly investigate all applications for help. Every precaution will be taken to guard the funds and utilize them for no other purpose than the relief of worthy dentists.

Will you not ask your professional friends to join you in this movement?

Will you not lend us your aid and influence to get our plan adopted by your State society?

Will you not call upon the members of the profession in your city and request them to contribute what they can? Will you not advise us, giving names of those you call upon, saving us further correspondence and them future annoyance?

Fraternally yours,

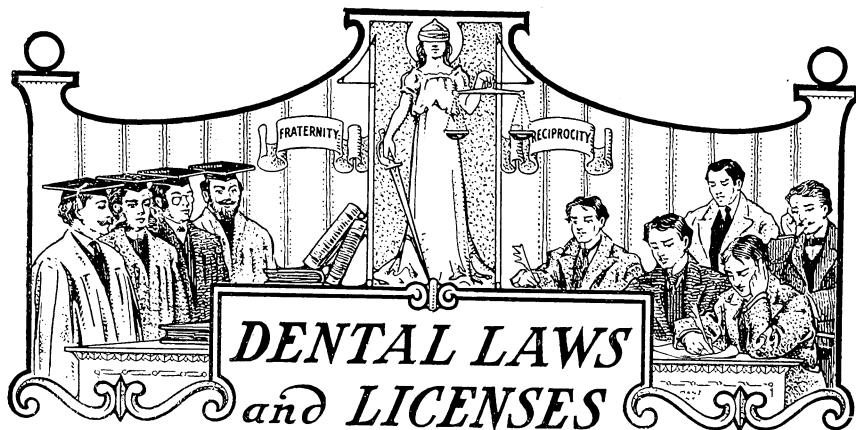
L. G. NOEL,

EDWARD S. GAYLORD,

W. T. CHAMBERS,

National Relief Committee.





DENTAL LAWS and LICENSES

Dental Nurse Act Proposed in Massachusetts.

An act to amend the law regulating the practice of dentistry:

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

SECTION 1. Any person who is twenty years of age or over and in the opinion of the board of good moral character, upon payment of a fee of five dollars, which shall not be returned to him, shall upon application be examined by the Board of Registration in Dentistry and if found competent be licensed by said board to perform as a dental nurse the services specified in Section Two hereof. Such license shall be valid for one year from the date thereof unless revoked by said board for violation of the conditions thereof. Any license issued under the provisions of this act may be renewed from year to year, upon payment of a fee of one dollar.

SEC. 2. A registered dental nurse shall be licensed to perform only such duties as shall be specified in his license and solely under the direction and in the office of a registered dentist. Nurses may be employed by schools and institutions; and directions for all their work shall be given by a registered dentist. The dental nurse shall be licensed to perform the service of cleansing of teeth.

SEC. 3. Each licensed dental nurse must notify the board of the name and address of the dentist or institution by whom he is employed.

SEC. 4. The board may, after a hearing, by vote of a majority of its members, annul the registration of a dental nurse for any violation of this act; and, without a hearing, may annul the registration and cancel the license of a dental nurse who has been found guilty of a crime.

SEC. 5. The board shall have power to register in like manner, without examination, any person who has been registered as a dental nurse in another State under laws which in the opinion of the board maintain a standard substantially equivalent to that of this act.

SEC. 6. Whoever, not being licensed to practise as a registered dental nurse within this commonwealth, practises or attempts to practise as a registered dental nurse, shall for each offense be punished by a fine of not more than one hundred dollars. Whoever becomes registered or attempts to become registered as a dental nurse, or whoever practises or attempts to practise as such under a false or assumed name, shall for each offense be punished by a fine of not more than one hundred dollars, or by imprisonment for three months, or by both such fine and imprisonment. Any dentist who employes a non-registered person to do work specified in Section Two hereof shall be fined one hundred dollars for each offense. Any registered dental nurse who violates the dental law by performing operations not allowed by the provisions of Section Two of this act shall be fined one hundred dollars for each offense, and the dentist, in whose employ and with whose knowledge and consent the nurse so violates the law, shall also be fined one hundred dollars for each offense.

SEC. 7. This act shall take effect upon its passage.

[This act has been approved by the joint committee. It is printed as an aid to the discussion of the subject.]

Favorable Report on Pharmacy Law Permitting Dental Supply Houses to Sell Cocaine and Other Drugs.

Mr. Gallinger, from the Committee on the District of Columbia, submitted the following report:

[To accompany H. R. 8619.]

The Committee on the District of Columbia, to whom was referred the bill (H. R. 8619) to amend "An act to regulate the practice of pharmacy and the sale of poisons in the District of Columbia, and for other purposes," approved May 7, 1906, having considered the same, report thereon with a recommendation that it pass, when amended as follows:

Strike out all after the enacting clause and insert in lieu thereof the following:

That "An act to regulate the practice of pharmacy and the sale of poisons in the District of Columbia, and for other purposes," approved May seventh, nineteen hundred and six, be amended by adding after section eleven thereof a new section to be known as "section eleven a," and to read as follows:

"SEC. 11a. That nothing contained in this act shall apply to sales at wholesale by any dental supply depot, carrying only a general stock of dental supplies (without being required to have a licensed pharmacist



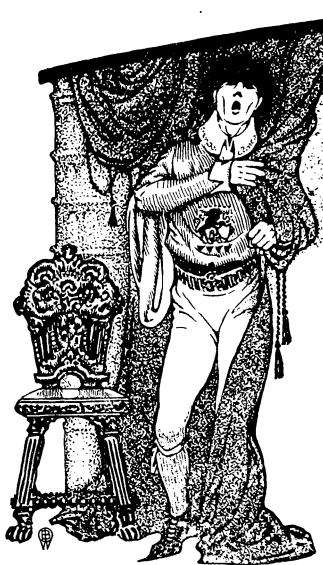
ITEMS OF INTEREST

employed therein or connected therewith), to lawfully authorized practitioners of dentistry or medicine, for personal use in the practice of their profession, or to incorporated dental or medical colleges, for use therein, or to incorporated hospitals, for use therein, all drugs, chemicals, and poisons used in the legitimate practice of dentistry: *Provided, however,* That no such dental supply depot shall so sell at wholesale any such drugs, chemicals, or poisons except upon the original written order of a lawfully authorized practitioner of dentistry or medicine, which order shall be dated and shall disclose the full name and address of such practitioner, and whether the articles ordered are for his personal professional use and account, or for the account and use therein of such college or hospital, and all such original orders shall for a period of three years be retained on file by the dental supply depot selling or furnishing the drugs, chemicals, or poisons specified therein. No proprietor, officer, agent, or employee of any dental supply depot shall sell or furnish any such drugs, chemicals, or poisons otherwise than as in this section provided, and no practitioner of dentistry or medicine shall purchase or obtain from any dental supply depot any such drugs, chemicals, or poisons otherwise than as in this section provided or for any other purpose than as in this section permitted."

The purpose of the proposed amendment to the District pharmacy law is to permit dental supply houses to sell their goods at wholesale to persons and institutions authorized to use them without being compelled to employ a registered pharmacist. In the law now in operation exceptions are made to permit sales of poisons at wholesale by "jobbers, manufacturers, and retail druggists to retail druggists, hospitals, colleges, and scientific or public institutions." Your committee are of opinion that it would be but equitable, and not detrimental to the safety of the public health, to extend to these dental supply houses the same privileges that are now enjoyed by druggists, etc. At the same time your committee deem it wise to recommend a more careful wording of the provision than is embodied in the bill as it comes from the House of Representatives, and with this end in view particular care has been taken to provide that the drugs shall be used only by the person or institution purchasing them.

House Bill No. 8619, which is referred to in above report could have prohibited dental supply houses in the District of Columbia from selling cocaine and other drugs if passed as originally introduced. It is to the efforts of Dr. Emory A. Bryant that the above amendment has received favorable report, and if enacted the thanks of both dealers and dentists are due to Dr. Bryant.

N. B. The bill, as amended, passed the Senate January 17, 1913.



SOCIETY ANNOUNCEMENTS

National Society Meetings

NATIONAL DENTAL ASSOCIATION, Kansas City, Mo., July, 1913.

AMERICAN SOCIETY OF ORTHODONTISTS, Chicago, Ill., July, 1913.

INSTITUTE OF DENTAL PEDAGOGICS, Pittsburgh, Pa., January 30, 1913.

State Society Meetings.

ARIZONA DENTAL SOCIETY, Phoenix, Ariz., November, 1913. Secretary, Dr. H. H. Wilson, Phoenix, Ariz.

ARKANSAS STATE DENTAL ASSOCIATION, Little Rock, Ark., April 7, 8, 9, 10, 11, 1913. Secretary, Dr. I. M. Sternberg, Ft. Smith, Ark.

CONNECTICUT STATE DENTAL ASSOCIATION, Waterbury, Conn., April 15, 16, 1913. Secretary, Dr. A. V. Prentis, New London, Conn.

GEORGIA STATE DENTAL SOCIETY, Columbus, Ga., June 12, 13, 14, 1913. Secretary, Dr. DeLos L. Hill, Grant Bldg., Atlanta, Ga.

ILLINOIS STATE DENTAL SOCIETY, Peoria, Ill., May 13, 14, 15, 16, 1913. Secretary, Dr. H. L. Whipple, Quincy, Ill.

INDIANA STATE DENTAL ASSOCIATION, Indianapolis, Ind., May 20, 21, 22, 1913. Secretary, Dr. Otto U. King, Huntington, Ind.

MICHIGAN STATE DENTAL SOCIETY, Grand Rapids, Mich., April 10, 11, 12, 1913. Secretary, Dr. F. Ward Howlett, Jackson, Mich.

MINNESOTA STATE DENTAL ASSOCIATION, Secretary, Dr. Benjamin Sandy, Syndicate Bldg., Minneapolis, Minn.

MISSOURI STATE DENTAL ASSOCIATION, Kansas City, Mo., July, 1913. Secretary, Dr. S. C. A. Rubey, Warrensburg, Mo.

NEBRASKA STATE DENTAL SOCIETY, Omaha, Nebr., May 12, 13, 14, 15, 1913. Secretary, Dr. Wm. A. McHenry, Nelson, Nebr.



NEW YORK STATE DENTAL SOCIETY, Albany, N. Y., May 8, 9, 10, 1913
Secretary, Dr. A. P. Burkhart, 52 Genesee St., Auburn, N. Y.

NORTH CAROLINA DENTAL SOCIETY, Winston-Salem, N. C., May 28, 29, 30, 1913. Secretary, Dr. J. M. Fleming, Raleigh, N. C.

NORTH DAKOTA DENTAL ASSOCIATION, Fargo, N. Dak., May 13, 14, 1913. Secretary, Dr. E. N. Hegge, Hatton, N. Dak.

PENNSYLVANIA STATE DENTAL SOCIETY, Philadelphia, Pa. Secretary, Dr. L. M. Weaver, 7103 Woodland Ave., Philadelphia, Pa.

TENNESSEE STATE DENTAL ASSOCIATION, Nashville, Tenn. Secretary, Dr. C. O. Rhea, Nashville, Tenn.

TEXAS STATE DENTAL ASSOCIATION, Temple, Texas, May 15, 16, 17, 1913. Secretary, Dr. J. G. Fife, Dallas, Texas.

VERMONT STATE DENTAL SOCIETY, Burlington, Vt., May 21, 22, 23, 1913. Secretary, Dr. P. M. Williams, Rutland, Vt.

VIRGINIA STATE DENTAL SOCIETY. Secretary, Dr. C. B. Gifford, Taylor Bldg., Norfolk, Va.

WISCONSIN STATE DENTAL SOCIETY, Madison, Wis., July 8, 9, 10, 1913. Secretary, Dr. O. G. Krause, Wells Bldg., Milwaukee, Wis.

The Panama-Pacific Dental Congress

As one of the attractions of the Panama Pacific International Exposition, a dental congress, international in character, to be known as the Panama Pacific Dental Congress, is to be held in San Francisco, California, beginning on the last Monday in August, 1915, and continuing for ten days.

A Committee of Organization has been perfected, including representatives from the Pacific Coast States—California, Oregon, Washington, Utah, Idaho, Colorado and Arizona.

This committee is now actively engaged in perfecting the work of organization, including the establishment in every State of the United States and every foreign country, where dental organizations are known to exist, of executive committees, which will be empowered to promote the business of the congress by bringing it to the attention of their National, State and local societies, and securing memberships and contributions to the program.

The American Society of Orthodontists and the National Dental Association, of the United States of America, have already made arrangements to meet in San Francisco in 1915 as parts of the congress, and invitations will be extended to other dental societies to take similar action.

The Panama Pacific Dental Congress is the first organization to



apply to the exposition management for space for exhibits and to ask that a definite time be set aside for its meeting.

Manufacturers of dental goods have signified their intention to maintain during the congress the greatest exhibition of dental supplies ever held; ample space for this purpose has already been promised by the exposition authorities, and we are assured of their hearty co-operation in all things pertaining to the success of the congress.

The membership fee has been fixed at ten dollars, and the finances of the congress are being cared for by a corporation, formed within the Committee of Organization, and known as the "Pacific Dental Congress Commission of 1915."

Over \$8,000 has already been subscribed for promotion purposes by the dentists and dental societies of the Pacific Coast States, and this fund will be increased by many thousands of dollars before the congress meets.

Ample funds for the promotion of the congress are assured, and in due time committees on Local Arrangements, Transportation, Exhibits, Clinics, Program, etc., will be appointed, and everything possible will be done to ensure the success of the congress and make it in attendance and scientific and professional interest the greatest dental congress ever held.

The whole world is coming to San Francisco in 1915 to participate in and enjoy the Panama Pacific International Exposition, which will commemorate the completion of the world's engineering masterpiece, the Panama Canal.

Never in the history of the profession has there been so auspicious a time for holding a great dental congress, and the Panama Pacific International Exposition Company and the Committee of Organization of the Panama Pacific Dental Congress unite in a cordial invitation to the members of the dental profession to come to San Francisco in 1915 to attend the congress and view the wonders of the exposition and Pacific Coast of the United States of America.

American Dental Society of Europe.

The fortieth annual meeting of the American Dental Society of Europe will be held at Easter in Florence, Italy. All members of the profession are cordially invited to be present. Florence is one of the most interesting cities of Europe and Easter is the most favorable time of the year for seeing Italy.

GEORGE H. WATSON, Secretary.

Pariser Platz 7, Berlin.



Examination of Dentists for the U. S. Army.

The Surgeon General of the Army announces that examinations for the appointment of Acting Dental Surgeons will be held at Fort Slocum, New York; Columbus Barracks, Ohio; Jefferson Barracks, Missouri; Fort Logan, Colorado, and Fort McDowell, California, on Monday, April 7, 1913.

Application blanks and full information concerning these examinations can be procured by addressing the "Surgeon General, U. S. Army, Washington, D. C."

The essential requirements to securing an invitation are that the applicant shall be a citizen of the United States, shall be between twenty-one and twenty-seven years of age, a graduate of a dental school legally authorized to confer the degree of D.D.S., and shall be of good moral character and habits.

Acting Dental Surgeons are employed under a three years' contract at the rate of \$150 per month. They are entitled to traveling allowances in obeying their first orders, in changing stations, and in returning to their homes at termination of service. They also have the privilege of purchasing certain supplies at the Army commissary. After three years' service, if found qualified, they are promoted to the grade of dental surgeon with the rank of first lieutenant, and receive thereafter the pay and allowances appertaining to that rank.

In order to perfect all necessary arrangements for examination, applications must be in the possession of the Surgeon General at least two weeks before the date of examination. Early attention is therefore enjoined upon all intending applicants. There is at present a large number of vacancies to be filled.

Nebraska State Dental Society.

The thirty-seventh annual meeting of the Nebraska State Dental Society will be held in Omaha, Nebr., May 12, 13, 14, 15, 1913, to which all ethical dentists are invited.

Wm. A. McHENRY, Secretary.

Nelson, Nebr.

North Carolina Dental Society.

The next meeting of the North Carolina Dental Society will be held at Winston-Salem, N. C., May 28, 29, 30, 1913.

J. MARTIN FLEMING, Secretary.

Raleigh, N. C.



Chicago Dental Society.

At the annual meeting of the Chicago Dental Society held at 31 W. Lake Street, Chicago, the election of officers resulted as follows:

President, Geo. N. West; vice-president, P. G. Puterbaugh; secretary, T. L. Grisamore; treasurer, F. E. Roach; librarian, E. D. Coolidge.

Two members on the Board of Directors: Wm. H. G. Logan, F. W. Gethro.

Board of Censors: P. B. D. Idler, H. C. Peisch, A. M. Hewett.

University of Buffalo, Dental Department.

The fourteenth annual meeting and clinic of the Alumni Association of the Dental Department of the University of Buffalo, will be held in the College Building on February 14 and 15, 1913. An excellent program of essays and clinics has been arranged. Class reunions, fraternity banquets and a general good time are assured.

Ethical practitioners are invited to attend.

D. H. McCoy,

Secretary.

M. B. ESCHELMAN,

President.

Iowa State Dental Society.

The fifty-first annual meeting of the Iowa State Dental Society will convene at Davenport, Iowa, May 6, 7 and 8, 1913, beginning Tuesday, May 7th, at 9 A.M. Elaborate clinics and lectures and a large exhibit will be presented.

Further information will be furnished upon request from ethical practitioners of other States contemplating a visit to the meeting and to them we extend a cordial invitation.

Exhibitors desiring space should apply to Dr. Wm. Finn, Cedar Rapids, Iowa.

C. M. KENNEDY, Secretary.

Des Moines, Iowa.

North Dakota Dental Association.

The eighth annual meeting of the North Dakota Dental Association will be held at Fargo, N. Dak., May 13, 14, 1913.

E. N. HEGGE, Secretary.

Hatton, N. Dak.



New York State Dental Society.

The forty-fifth annual meeting of the Dental Society of the State of New York will be held at Albany, N. Y., Thursday, Friday and Saturday, May 8, 9 and 10, 1913.

The first session will open on Thursday, at 10.30 A.M.

The literary program of the meeting will be rendered in the auditorium of the Educational Building.

Headquarters will be at the Hotel Ten Eyck, where the exhibits and clinics will be held.

A cordial invitation is extended to all ethical dentists in New York and sister States.

Exhibitors wishing to engage space please address Dr. J. Gross, Schenectady, N. Y. A. P. BURKHART, Secretary.

No. 52 Genesee Street, Auburn, N. Y.

Massachusetts Board of Registration in Dentistry

A meeting of the Massachusetts Board of Registration in Dentistry, for the examination of candidates, will be held in Boston, Mass., March 5, 6, 7, 1913. For application blanks and further information apply to

DR. G. E. MITCHELL, Secretary.

14 Water St., Haverhill, Mass.

Fifth District Dental Society

The forty-fifth annual meeting of the Fifth District Dental Society of the State of New York will be held at the Onondaga Hotel, Syracuse, N. Y., April 3, 4, 5, 1913. Papers and clinics of unusual interest have been secured, and it is confidently expected that this will be the largest and most instructive meeting ever held by the society.

A most cordial invitation is extended to all ethical practitioners.

J. N. GARLINGHOUSE, Secretary.

Clinton, N. Y.

